91912

Navships 91912

5
12

MANUSCRIPT FORM INSTRUCTION BOOK

for

DIRECTION FINDER SET AN/URD-4

Bendix Radio

Division of Bendix Aviation Corporation

Baltimore 4, Maryland

BUREAU OF SHIPS NAVY DEPARTMENT

Contracts: NObsr 52513
NObsr 57098

Approved by BuShips:

Navships 91912

MANUSCRIPT FORM INSTRUCTION BOOK

for

DIRECTION FINDER SET AN/URD-4

Bendix Radio

Division of Bendix Aviation Corporation

Baltimore 4, Maryland

BUREAU OF SHIPS

NAVY DEPARTMENT

Contracts: NObsr 52513
NObsr 57098

Approved by BuShips:

ADDENDUM

1. The use of five paralleled pairs of wires in cable W1204, between terminals 19 and 20 of terminal board TB1101 of the indicator cabinet and terminals 19 and 20 of terminal board TB801 of the receiver cabinet, is necessary only when the maximum cable length of 1000 feet is utilized. For cable lengths under 800 feet, four pairs of wires may be used, the remaining pair being utilized as spares. For cable lengths under 600 feet, three pairs of wires may be used, the remaining two pairs being utilized as spares. If there is no need for spare wires, connect cable W1204 as required for a 1000-foot maximum length, regardless of the actual cable length used.

2. Both mast and antenna mounting hole arrangements have been changed to conform to new physical design of antenna. Install the antenna as follows:

   a. Mount antenna upon mast if a ground installation, upon suitable platform if shipboard installation.

   b. Position antenna to line up arrow on antenna housing with true north for ground installation, or with center of ship towards the ship's bow if shipboard installation.

   c. Bolt antenna securely with hardware contained in bag attached to antenna.

   d. After pattern calibration, tune in a strong signal whose azimuth is known. Loosen jam nut and, by means of lever, position the cathode-ray tube to line up the propeller tip of the bearing pattern at desired azimuth. Tighten jam nut.

LIST OF EFFECTIVE PAGES

PAGE NUMBERS	CHANGE IN EFFECT	PAGE NUMBERS	CHANGE IN EFFECT

DEPARTMENT OF THE NAVY

Bureau of Ships

Washington 25, D. C.

In Reply Refer To
Code 993-100
20 April 1953

From: Chief, Bureau of Ships

To: All Activities Concerned with the Installation, Operation and Maintenance of the Subject Equipment.

Subj: Manuscript Form Instruction Book for Direction Finder Set AN/URD-4 NAVSHIPS 91912

1. This is the instruction book for the subject equipment and is in effect upon receipt.

2. When superseded by a later edition, this publication shall be destroyed.

3. Extracts from this publication may be made to facilitate the preparation of other Department of Defense Publications.

4. All Navy requests for NAVSHIPS Electronics Publications should be directed to the nearest District Publications and Printing Office. When changes or revised books are distributed, notice will be included in the Bureau of Ships Journal and in the Index of Bureau of Ships General and Electronics Publications, NAVSHIPS 250-020.

W. D. LEGGETT, Jr.
Chief of Bureau

RECORD OF CORRECTIONS MADE

CHANGE NO.	DATE	SIGNATURE OF OFFICER MAKING CORRECTION

TABLE OF CONTENTS

SECTION 1—GENERAL DESCRIPTION

Paragraph Page

1. Instruction Book Coverage 1-1
2. Purpose and Basic Principles 1-1
3. Description of Units 1-2
    a. Antenna AS-514/URD-4 1-2
    b. Mast AB-198/U 1-2
    c. Receiver Group OA-485/URD-4. 1-2
        (1) Radio Receiver R-353/URD-4. 1-2
        (2) Power Supply PP-556/URD-4 1-5
    d. Azimuth Indicator IP-93/URD-4 1-6
    e. Radio Test Set TS-777/URD-4 1-6
4. Reference Data 1-6

SECTION 2—THEORY OF OPERATION

1. General Description of Circuits 2-1
    a. Over-all System 2-1
    b. Frequency Control System 2-2
    c. Channel Selection System 2-5
2. Circuit Analysis 2-5
    a. Antenna AS-514/URD-4 2-5
    b. Receiver Group OA-485/URD-4. 2-6
        (1) Cabinet CY-890/URD-4. 2-6
        (2) Receiver Frame 2-6
        (3) Radio Receiver R-353/URD-4. 2-6
        (4) Power Supply PP-556/URD-4 2-17
    c. Azimuth Indicator IP-93/URD-4 2-17
    d. Frequency Control 2-20
    e. Channel Selection 2-23

TABLE OF CONTENTS (Continued)

SECTION 2--THEORY OF OPERATION (Continued)

Paragraph Page

- f. Monitor Selector Mechanism 2-26
- g. R-F Head Tuning Drive Mechanism 2-28

SECTION 3--INSTALLATION

1. Unpacking 3-1
2. Installation 3-1
   - a. Location of Units 3-1
   - b. Installation of Units 3-1
     - (1) Antenna AS-514/URD-4. 3-1
     - (2) Receiver Group OA-485/URD-4 3-2
     - (3) Azimuth Indicator IP-93/URD-4 3-2
   - c. Cabling Between Units 3-2
   - d. Primary Power Distribution 3-7
3. Initial Adjustments 3-7
   - a. Cable Length Compensation 3-7
   - b. Pattern Calibration 3-14
   - c. Antenna AS-514/URD-4 Orientation 3-18
   - d. Azimuth Indicator IP-93/URD-4, Distortion and Sensitivity Adjustments 3-22
   - e. Site-Error Testing 3-22
   - f. Remote Operation 3-23

SECTION 4--OPERATION

1. Introduction 4-1
2. Capabilities and Limitations 4-1
3. Operation 4-1
   - a. Channel Preselection 4-5
   - b. Energizing the Direction Finder Set. 4-6
   - c. Channel Selection 4-6
     - (1) Preset Operation 4-6
     - (2) Manual Operation 4-6

TABLE OF CONTENTS (Continued)

SECTION 4--OPERATION (Continued)

Paragraph Page

d. Calibration Pattern Check 4-9
e. Direction Finding Procedure 4-9
f. Direction Finding Pattern Interpretations 4-10
(1) Unmodulated Signals 4-10
(2) Noise Modulated Signals 4-11
(3) Tone Modulated Signals 4-11
(4) Voice Modulated Signals 4-11
g. Audio Signal Interpretation 4-11
4. Summary of Operation 4-11
a. Energizing the Direction Finder Set 4-11
b. Checking Calibration Pattern. 4-11
c. Channel Selection 4-12
(1) Preset Operation 4-12
(2) Manual Operation 4-12
d. Direction Finding Procedure 4-12
e. De-energizing Direction Finder Set 4-13

SECTION 5--OPERATOR'S MAINTENANCE

1. Routine Check Chart 5-1
2. Emergency Maintenance 5-1
a. Replacement of Tubes and Fuses 5-2
(1) Probable Fuse Failure 5-2
(2) Tube Locations 5-3
(3) Replacing the Cathode-Ray Tube 5-3

SECTION 6--PREVENTIVE MAINTENANCE

1. Routine Maintenance Check Chart 6-1
2. Lubrication 6-1
3. Antenna AS-514/URD-4, Brush Inspection and Replacement 6-1

TABLE OF CONTENTS (Continued)

SECTION 7—CORRECTIVE MAINTENANCE

Paragraph — Page

1. Theory of Localization 7-1
2. System Trouble Shooting 7-1
    - a. Locating Faulty Unit 7-1
3. Unit Trouble Shooting and Repair 7-2
    - a. Trouble Shooting 7-2
        - (1) Trouble-Shooting Procedure 7-2
        - (2) Trouble-Shooting Chart 7-5
        - (3) Circuit Constants 7-5
    - b. REPAIR. 7-10
        - (1) Electrical Adjustments 7-10
        - (2) Mechanical Adjustments 7-30
        - (3) Component Characteristics 7-44

SECTION 8—PARTS LIST

LIST OF ILLUSTRATIONS

SECTION 1—GENERAL DESCRIPTION

Figure — Title — Page

1-1 Direction Finder Set AN/URD-4, Relationship of Units 1-0
1-2 Antenna AS-514/URD-4, Identification of Features 1-3
1-3 Receiver Group OA-485/URD-4, Identification of Front Panels . . . 1-4
1-4 Azimuth Indicator IP-93/URD-4, Identification of Front Panel Controls 1-7
1-5 Radio Test Set TS-777/URD-4, Identification of Features. 1-8

SECTION 2—THEORY OF OPERATION

2-1 Direction Finder Set AN/URD-4, Over-all Functional Block Diagram . 2-0
2-2 Antenna AS-514/URD-4, D/F and Sense Operation, Simplified Schematic Diagram. 2-4
2-3 Radio Receiver R-353/URD-4, Simplified Over-all Block Diagram . . 2-7

LIST OF ILLUSTRATIONS (Continued)

SECTION 2—THEORY OF OPERATION (Continued)

Figure	Title	Page
2-4	R-F Head Cavity, Physical and Electrical Equivalent Circuits . . .	2-8
2-5	Discriminator V409 Operation, Simplified Diagram	2-11
2-6	Power Supply PP-556/URD-4, Simplified Over-all Block Diagram . . .	2-15
2-7	Relay K701 Circuit, Simplified Schematic Diagram	2-16
2-8	Azimuth Indicator IP-93/URD-4, Over-all Block Diagram	2-18
2-9	Bridge Circuit, Simplified Schematic Diagram	2-21
2-10	Speed Clutch Circuit, Simplified Schematic Diagram	2-22
2-11	Monitor Selector Switch Drive, Simplified Diagram	2-25
2-12	Friction Clutch, Exploded View	2-27

SECTION 3—INSTALLATION

Figure	Title	Page
3-1	Mast AB-198/U, Outline Drawing and Mounting Hole Arrangement . . .	3-3
3-2	Antenna AS-514/URD-4, Outline Drawing	3-4
3-3	Receiver Group OA-485/URD-4, Outline Drawing	3-5
3-4	Azimuth Indicator IP-93/URD-4, Outline Drawing	3-6
3-5	Cable W1201, Installation of Connectors.	3-9
3-6	Cable W1202, Installation of Connector	3-11
3-7	Receiver Group OA-485/URD-4, Controls for Initial Adjustments . .	3-15
3-8	Azimuth Indicator IP-93/URD-4, Controls for Initial Adjustments .	3-16
3-9	Circular Pattern	3-17
3-10	Calibration Pattern.	3-20
3-11	Target Antenna, Construction Details	3-21
3-12	Azimuth Indicator IP-93/URD-4, Controls for Distortion and Sensitivity Adjustments.	3-24

SECTION 4—OPERATION

Figure	Title	Page
4-1	Azimuth Indicator IP-93/URD-4, Panel Controls	4-3
4-2	Memory Cylinder Location	4-4
4-3	Memory Cylinder Adjustment	4-7
4-4	Typical Operating Patterns	4-8

LIST OF ILLUSTRATIONS (Continued)

SECTION 5--OPERATOR'S MAINTENANCE

Figure	Title	Page
5-1	Receiver Group OA-485/URD-4, Fuse Locations.	5-4
5-2	Azimuth Indicator IP-93/URD-4, Fuse Locations	5-5
5-3	Power Supply PP-556/URD-4, Tube Locations.	5-6
5-4	Monitor, Tube Locations.	5-7
5-5	R-F Head, Tube Locations	5-8
5-6	I-F Video-Audio Chassis, Tube Locations	5-9
5-7	Azimuth Indicator IP-93/URD-4, Tube Locations	5-11
5-8	Cathode-Ray Tube, Removal.	5-12
5-9	Cathode-Ray Tube, Adjustments Location	5-13

SECTION 6--PREVENTIVE MAINTENANCE

Figure	Title	Page
6-1	Lubrication Data	6-3
6-2	Antenna AS-514/URD-4, Brush Cap Location	6-4

SECTION 7--CORRECTIVE MAINTENANCE

Figure	Title	Page
7-1	Failure Report	7-0
7-2	Receiver Group OA-485/URD-4, Maintenance Controls	7-3
7-3	Radio Test Set TS-777/URD-4.	7-4
7-4	Power Supply PP-556/URD-4, Components Location	7-11
7-5	Receiver Frame, Components Location	7-12
7-6	I-F Video-Audio Chassis, Components Location	7-13/7-14
7-7	Monitor, Components Location	7-15/7-16
7-8	R-F Head, Components Location	7-17/7-18
7-9	Azimuth Indicator IP-93/URD-4, Components Location	7-19/7-20
7-10	Power Supply PP-556/URD-4, Adjustments Location	7-21
7-11	Monitor, Adjustments Location	7-22
7-12	I-F Video-Audio Chassis, Adjustments Location	7-23
7-13	R-F Head, Adjustments Location	7-24/7-25/7-26
7-14	Azimuth Indicator IP-93/URD-4, Adjustments Location	7-27
7-15	Antenna AS-514/URD-4, Disassembly	7-28

LIST OF ILLUSTRATIONS (Continued)

SECTION 7—CORRECTIVE MAINTENANCE (Continued

Figure	Title	Page
7-16	Antenna AS-514/URD-4, Tone Wheel Coil Adjustment	7-31
7-17	Sense Relay, Removal	7-32
7-18	Antenna Drive, Disassembly	7-33
7-19	Crystal Replacement in Loktal Base Oven	7-34
7-20	Crystal Replacement in Multiple Oven	7-37
7-21	Monitor Selector Switch, Disassembly	7-38
7-22	Setting Segment Selector Switch	7-39
7-23	R-F Head, Disassembly	7-40
7-24	Tuning Drive, Components Removal	7-43
7-25	Servicing Block Diagram	7-59/7-60
7-26	Antenna AS-514/URD-4, Schematic Diagram	7-61/7-62
7-27	Antenna AS-514/URD-4, Wiring Diagram	7-63/7-64
7-28	Cabinet CY-890/URD-4, Schematic Diagram	7-65/7-66
7-29	Cabinet CY-890/URD-4, Wiring Diagram	7-67/7-68
7-30	Receiver Frame, Schematic Diagram	7-69/7-70
7-31	Receiver Frame, Wiring Diagram	7-71/7-72
7-32	R-F Head, Schematic Diagram	7-73/7-74
7-33	R-F Head, Drive and R-F, Wiring Diagram	7-75/7-76
7-34	R-F Head, Receiver Cavity, Wiring Diagram	7-77/7-78
7-35	R-F Head, Three-Gang Section, Wiring Diagram	7-79/7-80
7-36	R-F Head, Tuning Drive, Wiring Diagram	7-81/7-82
7-37	R-F Head, I-F Chassis, Wiring Diagram	7-83/7-84
7-38	Monitor, Schematic Diagram	7-85/7-86
7-39	Monitor, Wiring Diagram	7-87/7-88
7-40	Monitor Drive, Wiring Diagram	7-89/7-90
7-41	I-F Video — Audio Chassis, Schematic Diagram	7-91/7-92
7-42	I-F Video - Audio Chassis, Wiring Diagram	7-93/7-94
7-43	Power Supply PP-556/URD-4, Schematic Diagram	7-95/7-96

LIST OF ILLUSTRATIONS (Continued)

SECTION 7—CORRECTIVE MAINTENANCE (Continued)

Figure	Title	Page
7-44	Power Supply PP-556/URD-4, Wiring Diagram	7-97/7-98
7-45	Electrical Equipment Cabinet CY-1304/URD-4, Schematic Diagram	7-99/7-100
7-46	Electrical Equipment Cabinet CY-1304/URD-4, Wiring Diagram. .	7-101/7-102
7-47	Azimuth Indicator IP-93/URD-4, Schematic Diagram	7-103/7-104
7-48	Azimuth Indicator IP-93/URD-4, Wiring Diagram	7-105/7-106
7-49	Azimuth Indicator IP-93/URD-4, Selector Switch, Wiring Diagram	7-107/7-108
7-50	Radio Test Set TS-777/URD-4, Schematic Diagram	7-109/7-110
7-51	Radio Test Set TS-777/URD-4, Wiring Diagram	7-111/7-112
7-52	Connector Diagram	7-113/7-114
7-53	Interconnecting and Cabling Diagram	7-115/7-116
7-54	Power Supply PP-556/URD-4, Voltage and Resistance Measurements	7-117/7-118
7-55	Azimuth Indicator IP-93/URD-4, Voltage and Resistance Measurements	7-119/7-120
7-56	I-F Video - Audio Chassis, Voltage and Resistance Measurements	7-121/7-122
7-57	Monitor, Voltage and Resistance Measurements	7-123/7-124
7-58	R-F Head, Voltage and Resistance Measurements	7-125/7-126
7-59	Primary Power Distribution	7-127/7-128
7-60	Receiver Selectivity	7-129/7-130
7-61	Audio Frequency Response	7-131/7-132
7-62	Automatic Gain Control	7-133/7-134

LIST OF TABLES

SECTION 1—GENERAL DESCRIPTION

Table No.		Page
1-1	Equipment Supplied	1-11
1-2	Equipment Required But Not Supplied	1-12
1-3	Shipping Data	1-12
1-4	Electron Tube Complement	1-12

LIST OF TABLES (Continued)

SECTION 3--INSTALLATION

Table No. Page

3-1 Interconnecting Cables 3-12

SECTION 4--OPERATION

4-1 Function of Operating Controls and Switches 4-2

SECTION 5--OPERATOR'S MAINTENANCE

5-1 Routine Check Chart 5-1
5-2 Symptoms of Fuse Failure 5-2
5-3 Fuse Locations 5-3

SECTION 6--PREVENTIVE MAINTENANCE

6-1 Routine Maintenance Check Chart. 6-1

SECTION 7--CORRECTIVE MAINTENANCE

7-1 Radio Test Set TS-777/URD-4, Operational Data 7-1
7-2 Trouble-Shooting Chart - Receiver Group OA-485/URD-4 7-6
7-3 Trouble-Shooting Chart - Azimuth Indicator IP-93/URD-4 7-7
7-4 Monitor Adjustment Data. 7-8
7-5 Crystal Circuits Alignment Data 7-9
7-6 I-F Video - Audio Chassis Alignment Data 7-9
7-7 Tube Operating Voltages. 7-45
7-8 Rated Tube Characteristics 7-48
7-9 Crystal Circuit Frequency 7-50
7-10 Winding Data 7-51

SECTION 8--PARTS LIST

8-1 Weights and Dimensions of Spare Parts Boxes . . . .
8-2 Shipping Weights and Dimensions of Spare Parts Boxes . . . .
8-3 List of Major Units. . . . .
8-4 Table of Replaceable Parts . . . .
8-5 Equipment Spare Parts List . . . .
8-6 Cross Reference Parts List . . . .
8-7 Applicable Color Codes and Miscellaneous Data . . . .
8-8 List of Manufacturers . . . .

GUARANTEE

The equipment, including all parts and spare parts, except vacuum tubes, batteries, rubber and material normally consumed in operation, is guaranteed for a period of one year from the date of delivery of the equipment to and acceptance by the Government with the understanding that all such items found to be defective as to material, workmanship or manufacture will be repaired or replaced, f.o.b. any point within the continental limits of the United States designated by the Government, without delay and at no expense to the Government; provided that such guarantee will not obligate the Contractor to make repair or replacement of any such defective items unless the defect appears within the aforementioned period and the Contractor is notified thereof in writing within a reasonable time and the defect is not the result of normal expected shelf life deterioration.

To the extent the equipment, including all parts and spare parts, as defined above, is of the Contractor's design or is of a design selected by the Contractor, it is also guaranteed, subject to the foregoing conditions, against defects in design with the understanding that if ten per cent (10%) or more of any such said item, but not less than two of any such item, of the total quantity comprising such item furnished under the contract, are found to be defective as to design, such item will be conclusively presumed to be of defective design and subject to one hundred per cent (100%) correction or replacement by a suitably redesigned item.

All such defective items will be subject to ultimate return to the Contractor. In view of the fact that normal activities of the Naval Service may result in the use of equipment in such remote portions of the world or under such conditions as to preclude the return of the defective items for repair or replacement without jeopardizing the integrity of Naval communications, the exigencies of the Service, therefore, may necessitate expeditious repair of such items in order to prevent extended interruption of communications. In such cases the return of the defective items for examination by the Contractor prior to repair or replacement will not be mandatory. The report of a responsible authority, including details of the conditions surrounding the failure, will be acceptable as a basis for effecting expeditious adjustment under the provisions of this contractual guarantee.

The above one year period will not include any portion of time the equipment fails to perform satisfactorily due to any defects, and any items repaired or replaced by the Contractor will be guaranteed anew under this provision.

INSTALLATION RECORD

Contract Number NObsr 52513 Date of Contract, ____________

Contract Number NObsr 57098 Date of Contract, ____________

Serial Number of equipment . . . .

Date of acceptance by the Navy . . . .

Date of delivery to contract destination . . . .

Date of completion of installation . . . .

Date placed in service . . . .

Blank spaces on this page shall be filled in at time of installation. Operating personnel shall also mark the "date placed in service" on the date of acceptance plate located below the model nameplate on the equipment, using suitable methods and care to avoid damaging the equipment.

REPORT OF FAILURE

Report of failure of any part of this equipment, during its entire service life, shall be made to the Bureau of Ships in accordance with current regulations using form NAVSHIPS NBS 383 (revised) except for Marine Corps equipment, in which case the "Signal Equipment Failure Report" form shall be used and distributed in accordance with instructions pertaining thereto. The report shall cover all details of the failure and give the date of installation of the equipment. For procedure in reporting failures see Chapter 67 of the Bureau of Ships Manual or superseding instructions.

ORDERING PARTS

All requests or requisitions for replacement material should include the following data:

1. Federal stock number or, when ordering from a Marine Corps or Signal Corps supply depot, the Signal Corps stock number.
2. Name and short description of part.

If the appropriate stock number is not available the following shall be specified:

1. Equipment model or type designation, circuit symbol, and item number.
2. Name of part and complete description.
3. Manufacturer's designation.
4. Contractor's drawing and part number.
5. JAN or Navy type number.

DESTRUCTION OF ABANDONED MATERIAL IN THE COMBAT ZONE

In case it should become necessary to prevent the capture of this equipment, and when ordered to do so, DESTROY IT SO THAT NO PART OF IT CAN BE SALVAGED, RECOGNIZED, OR USED BY THE ENEMY, BURN ALL PAPERS AND BOOKS.

Means:

1. Explosives, when provided.
2. Hammers, axes, sledges, machetes, or whatever heavy object is readily available.
3. Burning by means of incendiaries such as gasoline, oil, paper or wood.
4. Grenades and shots from available firearms.
5. Burying all debris, where possible and when time permits.
6. Throwing overboard or disposing of in streams or other bodies of water.

Procedure:

1. Obliterate all identifying marks. Destroy nameplates and circuit labels.
2. Demolish all panels, castings, switch and instrument boards.
3. Destroy all controls, switches, relays, connections and meters.
4. Rip out all wiring and cut interconnections of electrical equipment. Smash gas, oil, and water cooling systems in gas engine generators, etc.
5. Smash every electrical or mechanical part, whether rotating, moving or fixed.
6. Break up all operating instruments such as keys, phones, microphones, etc.
7. Destroy all classes of carrying cases, straps, containers, etc.
8. Bury or scatter all debris.

DESTROY EVERYTHING!

SAFETY NOTICE

The attention of officers and operating personnel is directed to Chapter 67 of the Bureau of Ships Manual or superseding instructions on the subject of radio-safety precautions to be observed.

This equipment employs voltages which are dangerous and may be fatal if contacted by operating personnel. Extreme caution should be exercised when working with the equipment.

While every practicable safety precaution has been incorporated in this equipment, the following rules must be strictly observed:

KEEP AWAY FROM LIVE CIRCUITS:

Operating personnel must at all time observe all safety regulations. Do not change tubes or make adjustments inside equipment with high voltage supply on. Under certain conditions dangerous potentials may exist in circuits with power controls in the off position due to charges retained by capacitors. To avoid casualties, always remove power and discharge and ground circuits prior to touching them.

DON'T SERVICE OR ADJUST ALONE:

Under no circumstances should any person reach within or enter the enclosure for the purpose of servicing or adjusting the equipment without the immediate presence or assistance of another person capable of rendering aid.

DON'T TAMPER WITH INTERLOCKS:

Do not depend upon door switches or interlocks for protection but always shut down motor generators or other power equipment. Under no circumstances should any access gate, door, or safety interlock switch be removed, short-circuited, or tampered with in any way, by other than authorized maintenance personnel, nor should reliance be placed upon the interlock switches for removing voltages from the equipment.

RESUSCITATION

AN APPROVED POSTER ILLUSTRATING THE RULES FOR RESUSCITATION BY THE PRONE PRESSURE METHOD SHALL BE PROMINENTLY DISPLAYED IN EACH RADIO, RADAR, OR SONAR ENCLOSURE. POSTERS MAY BE OBTAINED UPON REQUEST TO THE BUREAU OF MEDICINE AND SURGERY.

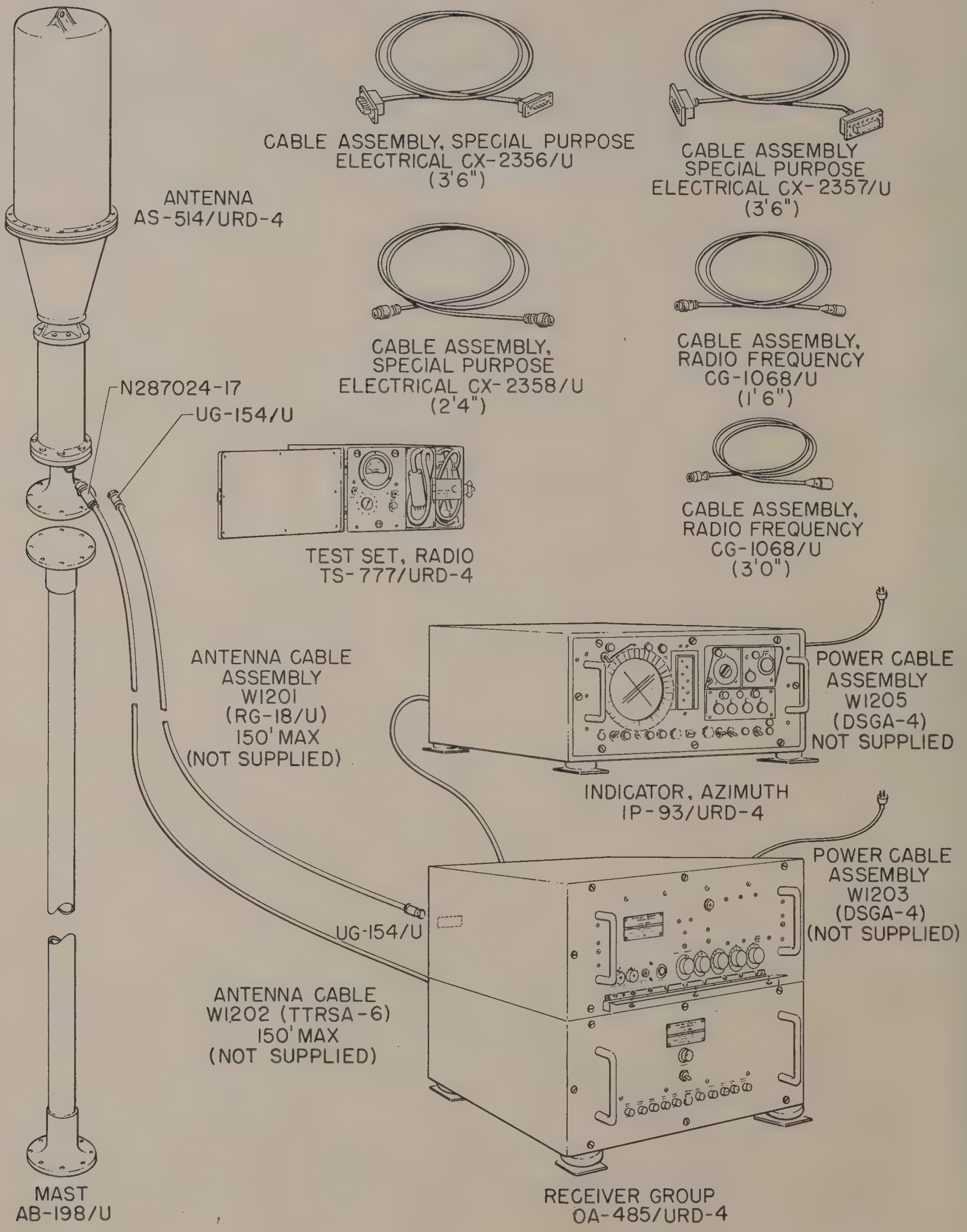


Figure 1-1. Direction Finder Set AN/URD-4, Relationship of Units

SECTION 1

GENERAL DESCRIPTION

1. INSTRUCTION BOOK COVERAGE.

This instruction book covers the installation, operation, and maintenance of Direction Finder Set AN/URD-4.

2. PURPOSE AND BASIC PRINCIPLES.

Direction Finder Set AN/URD-4 is designed to provide instantaneous visual direction finding information from radio frequency signals in the frequency range from 225.0 to 399.9 megacycles. The equipment operates from any single-phase, 115-volt, 55- to 65-cycle source and can be installed on either land or shipboard. The antenna system is designed to accept only vertically polarized signals. Accurate direction finding information is provided, however, from signals polarized as far as 45 degrees from vertical. Tuning is accomplished by means of a remotely controlled device which selects any one of 20 preset frequencies, 1750 of which are available. Any one of the 1750 channels can be selected manually by use of the manual controls provided.

The entire equipment comprising Direction Finder Set AN/URD-4 is illustrated in figure 1-1. The three major units of the direction finder set are: the antenna, the receiver group, and the indicator. Direction finding information is presented in the form of a propeller-shaped pattern on the face of the cathode-ray tube in the indicator. The pattern can be made to shift position and form to display a V-shaped figure, the apex of which indicates the true direction of the received signal. Directional information is displayed with a bearing accuracy of plus or minus five degrees.

Aural reception can be simultaneous with D/F (direction finding) operation, provision being made on the indicator cabinet for headphones. While aural reception is possible on modulated signals only, direction finding information is displayed on received signals whether modulated or unmodulated.

The direction finder set utilizes a rotating, twin-dipole, Adcock antenna array which has the unique features of not needing a sense element. Sense "bend" is obtained by shifting the phase of a portion of the incoming signal before combining voltages from the antenna elements. Sweep voltages are generated by a two-phase alternator rotating on the antenna shaft. Calibration voltages are generated by a tone wheel rotating on the antenna shaft. Thus, positive synchronization of the signal voltage, sweep voltage, and calibration voltage is provided. The antenna is rotated by means of a direct-coupled 825-rpm induction motor.

Energy transfer is accomplished by a balanced rotating capacitance joint. An r-f transmission line assembly (balun) converts the coupling to unbalanced condition for coaxial line transmission to the receiver.

3. DESCRIPTION OF UNITS.

a. ANTENNA AS-514/URD-4.--Antenna AS-514/URD-4 is illustrated in figure 1-2. The rotatable Adcock antenna array is enclosed in a watertight, plastic radome. The antenna housing assembly encloses the antenna drive motor, the balun, the tone wheel, and the alternator. The sense relay rotates with the antenna and its actuating voltage is fed through slip rings at the base of the antenna shaft. Antenna rotation is controlled by a switch on the indicator panel.

The antenna control cable and the r-f cable are connected to the antenna through jacks at the antenna base. Since the antenna needs no sense element, its sensitivity to horizontally-polarized signals is reduced, and a substantial decrease in antenna weight and complexity is effected.

b. MAST AB-198/U.--Mast AB-198/U is a ten-foot length of three-inch seamless steel tubing with 9-1/4-inch circular mast heads at each end. Eight symmetrical 11/32-inch mounting holes are drilled in each mast head. The mast can be used alone or two or more can be stacked to provide greater height. Antenna AS-514/URD-4 can be bolted to either mast head of Mast AB-198/U.

c. RECEIVER GROUP OA-485/URD-4.--Receiver Group OA-485/URD-4 consists of the receiver and its associated power supply mounted in a single cabinet as illustrated in figure 1-3. The cabinet is equipped with interlock switches which disconnect the primary power source when either the receiver or power supply is removed. Two thermostatically controlled blowers provide ventilation for the entire cabinet.

(1) RADIO RECEIVER R-353/URD-4.--The radio receiver case is a complete enclosure, providing additional shielding beyond that afforded by the main cabinet. Screened openings are provided for the circulation of cooling air from the blower. The receiver consists of three individual units within the same

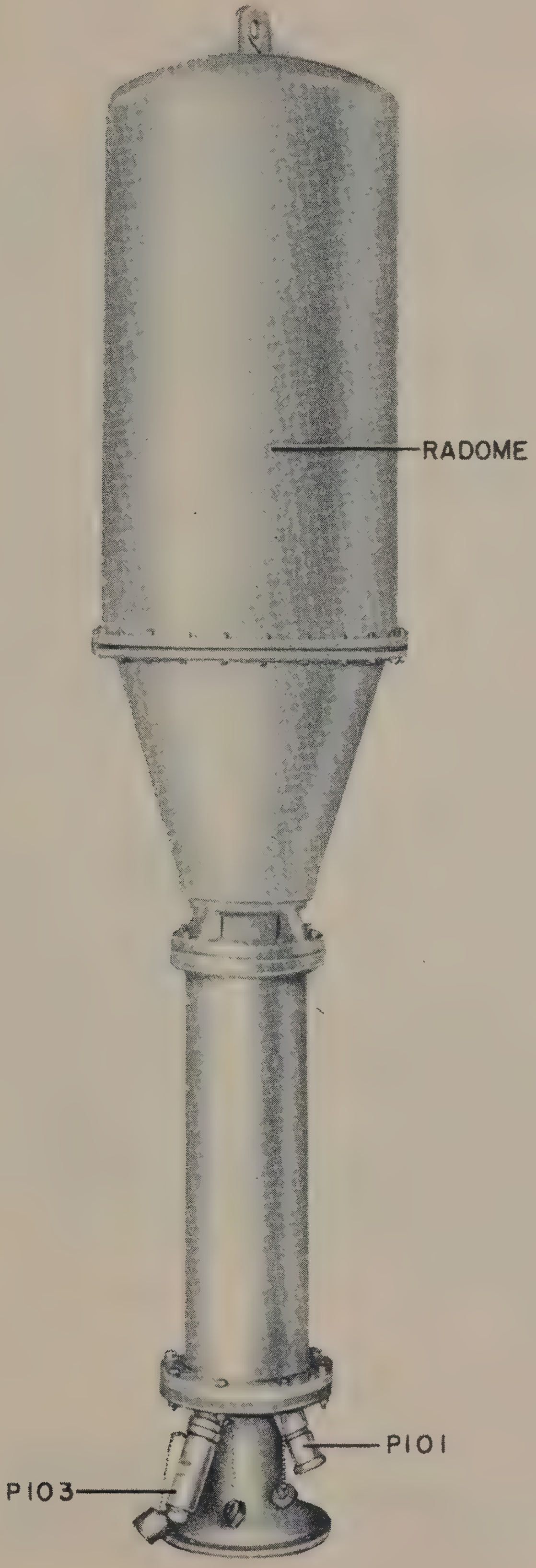
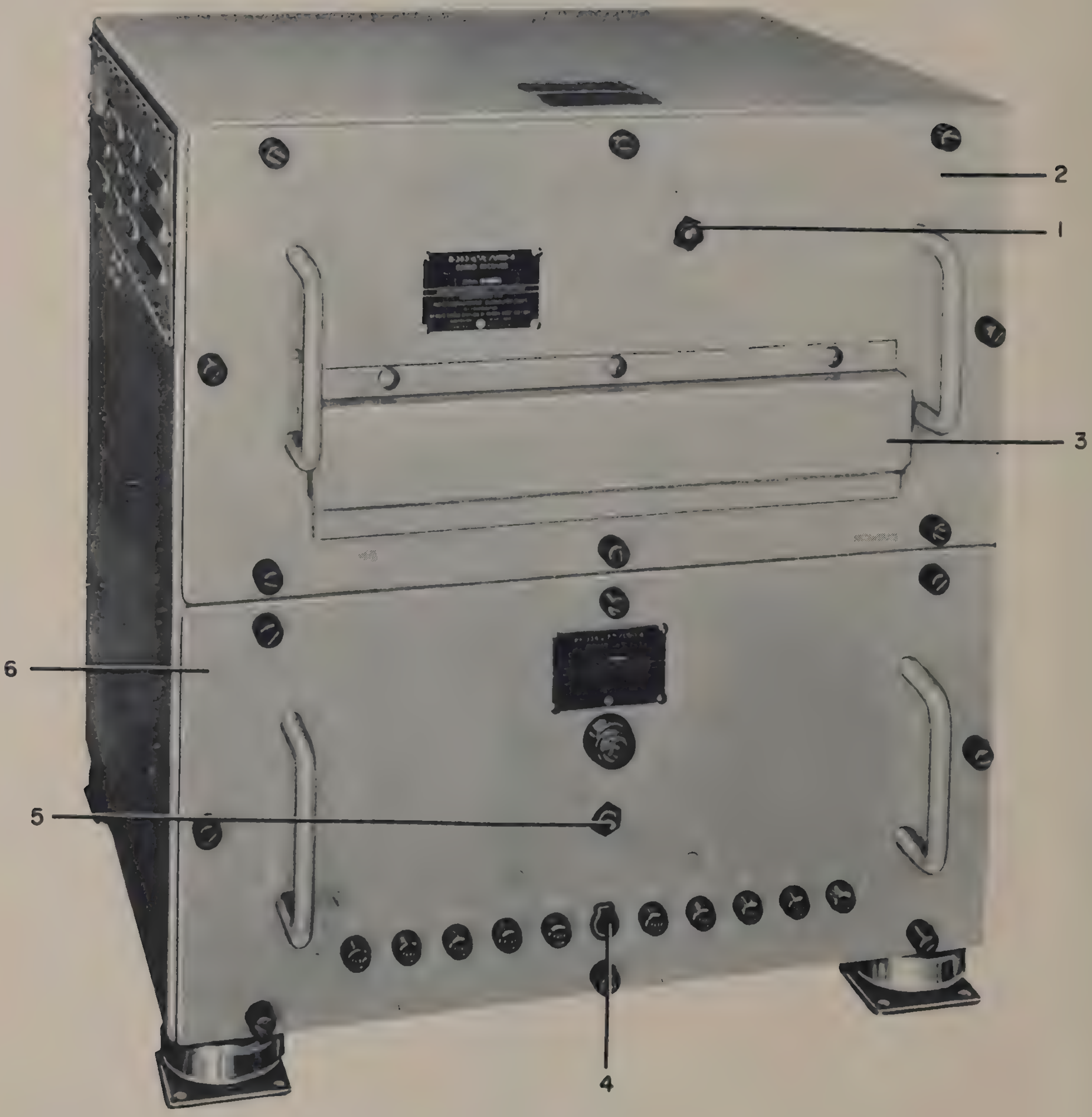


Figure 1-2. Antenna AS-514/URD-4, Identification of Features



1 RESET switch
2 Radio Receiver R-353/URD-4
3 Maintenance controls
4 PHONES jack
5 REMOTE-OFF-LOCAL switch
6 Power Supply PP-556/URD-4

Figure 1-3. Receiver Group OA-485/URD-4, Identification of Front Panel Controls

frame: the r-f head, the monitor, and the i-f video-audio chassis. Each unit is constructed so that it plugs into the main frame and is securely bolted thereto. Any unit can be removed from the frame, if necessary, and operated externally to the cabinet by using patch cables. This feature facilitates servicing the receiver, in that entire units may be tested outside of the cabinet but yet remain connected to the receiver.

Receiver input impedance is 50 ohms unbalanced (coaxial cable input). Audio, video, and noise outputs are taken from the detector and amplified in the i-f video-audio chassis. A gain control on the receiver is used to set the desired video-audio ratio. Further control is effected by an operator control on the indicator at the remote position. Audio output impedance is 600 ohms, with an available power of 100 milliwatts.

The video amplifier, which is connected to the signal diode through a low-pass filter, is a cathode follower whose low impedance output is carried through the interconnecting cable to the indicator chassis. The noise channel output circuit is identical to that of the video channel. Its d-c signal offsets the d-c noise component of the video signal, when combined with it in the indicator, and prevents shrinkage of the pattern due to noise.

Receiving frequency is controlled by the monitor which, in turn, is controlled by the frequency selector. The monitor drives the tuning control motor until all tuned circuits are at rest on the exact selected frequency. Circuits in the r-f head are aligned in this process so that the two stages of r-f amplification in the unit are tuned to the incoming signal frequency as indicated by the frequency selector. Local oscillator frequency and mixer tuning are determined at the same time.

(2) POWER SUPPLY PP-556/URD-4.—The power supply provides regulated "B" voltages for receiver circuits at levels of 105 volts and 200 volts. Filament voltages are supplied at 19 volts ac and 6.3 volts ac. Unfiltered low voltage is supplied for tuning motor and clutch operation and filtered low voltage is supplied to operate the frequency selecting bridge system.

d. AZIMUTH INDICATOR IP-93/URD-4.—The indicator is illustrated in figure 1-4. All functions of the direction finder set can be controlled from the front panel of the indicator cabinet. The indicator includes all the circuits necessary to apply video, calibration, and sweep voltages to the cathode-ray tube at the proper levels and contains the controls required for calibrating these circuits in normal usage. On the front panel are three indicator lamps: one green, one amber, and one red, to indicate the operating status of the receiver circuits. Controls include the main power switch, the antenna power switch, the sense-calibrate switch, and those comprising the frequency selector mechanism and twenty-channel selector.

Self-contained power supplies provide regulated "B" voltages for the amplifier, modulators, and carrier circuits and accelerating-anode voltage for the cathode-ray tube.

A watertight cover, not shown in the illustration, is provided to secure the unit against salt water spray. No special tools are required to remove or replace the cover.

e. RADIO TEST SET TS-777/URD-4.—The test set, illustrated in figure 1-5, enables personnel to make voltage and current measurements and check on the activity of crystals employed in the equipment.

4. REFERENCE DATA.

a. NOMENCLATURE: Direction Finder Set AN/URD-4.

b. CONTRACT NUMBER AND DATE: NObsr 52513, dated 15 June 1951; NObsr 57098, dated 28 November 1951.

c. CONTRACTOR: Bendix Radio, Division of Bendix Aviation Corporation

d. COGNIZANT NAVAL INSPECTOR: Inspector of Naval Material, Baltimore, Md.

e. NUMBER OF PACKAGES INVOLVED PER COMPLETE SHIPMENT OF EQUIPMENT: Five

f. TOTAL CUBICAL CONTENTS:

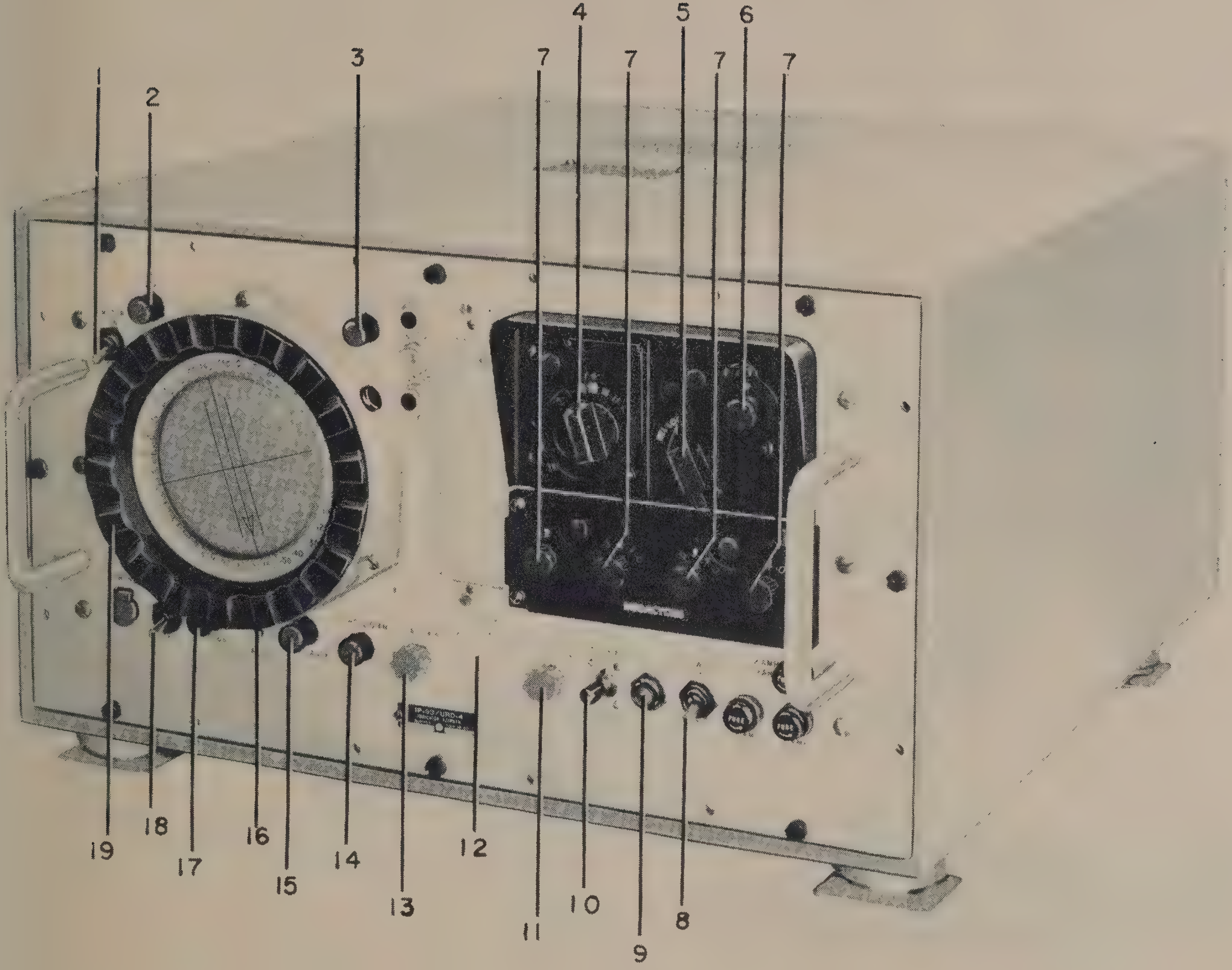
Crated:

Uncrated:

g. TOTAL WEIGHT:

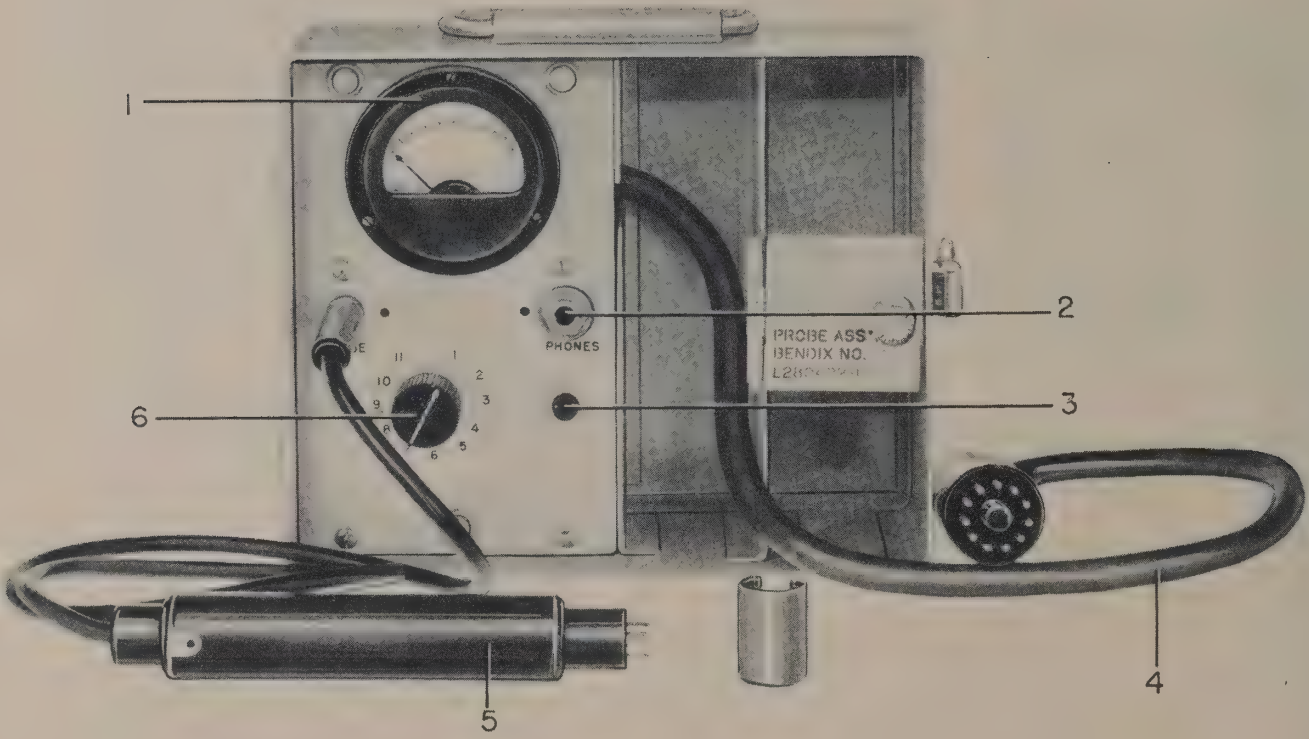
Crated:

Uncrated: 470 pounds



1 MOTOR switch
2 VERTical control
3 HORIZontal control
4 Channel selector switch
5 RELease LOCK switch
6 MANual PRESET switch
7 Digit selector switches
8 POWER switch
9 RESET switch
10 CALIBRATE-SENSE switch
11 RF GAIN control
12 LIGHTS switch
13 AF GAIN control
14 CIRCLE DIAMeter control
15 BRILLIANCE control
16 ASTIGmatism control
17 FOCUS control
18 SQUELCH switch
19 Alidade operating ring

Figure 1-4. Azimuth Indicator IP-93/URD-4, Identification of Front Panel Controls



1 Meter
2 PHONES jack
3 Sensitivity switch
4 Eleven-pin probe
5 Seven-pin probe
6 Meter selector switch

Figure 1-5. Radio Test Set TS-777/URD-4,
Identification of Features

h. FREQUENCY RANGE: 225.0 to 399.9 megacycles in fixed channels spaced 0.1 megacycles.

i. NUMBER OF TUNING BANDS: One, ranging from 225.0 to 399.9 megacycles.

j. NUMBER OF PRESET FREQUENCIES: 20.

k. TYPE OF FREQUENCY CONTROL: Crystal.

l. TYPE OF RECEIVER: Superheterodyne.

m. INTERMEDIATE FREQUENCIES: 15.325 and 2.8072 megacycles.

n. RECEIVER AUDIO OUTPUT: 100 milliwatts into 600-ohm impedance headphones.

o. TYPE OF RECEPTION: A_0, A_1, A_2, A_3, AM or FM. Type A_0 or A_1 signals give visual indications, but, since no beat-frequency device is used in the receiver, these signals do not produce an aural response.

p. CRYSTALS:

QUANTITY	FREQUENCY (MC)	JAN TYPE NO.	QUANTITY	FREQUENCY (MC)	JAN TYPE NO.
1	0.833333	CR-28/U	2	3.733333	CR-27/U
1	3.233333	CR-27/U	1	3.750000	CR-27/U
1	3.400000	CR-27/U	1	3.766667	CR-27/U
1	3.566667	CR-27/U	1	3.783333	CR-27/U
1	3.650000	CR-27/U	1	3.800000	CR-27/U
1	3.666667	CR-27/U	1	3.900000	CR-27/U
1	3.683333	CR-27/U	1	5.172917	CR-27/U
1	3.700000	CR-27/U	1	5.181250	CR-27/U
1	3.716667	CR-27/U	1	12.5178	CR-18/U

q. SQUELCH CIRCUIT CHARACTERISTICS: Any signal at a level lower than that for which squelch is designed does not pass through the receiver and cannot be heard in the headphones, so that tube noise and other non-signal responses do not become audible. Squelch does not control the video channel. Squelch may be disabled if desired.

r. IMPEDANCES:

Antenna - 52 ohms

R-f input - 52 ohms

Headphones (audio output impedance) - 600 ohms

s. ELECTRICAL CHARACTERISTICS OF RECOMMENDED ANTENNAS:—Rotatable Adcock array, two dipoles vertically mounted, rotating capacitance joint.

t. CHARACTERISTICS OF POWER SUPPLY REQUIRED FOR OPERATION:—115 volts, 55 to 65 cycles, single-phase power source.

u. HEAT DISSIPATION OF MAJOR UNITS:

Radio Receiver R-353/URD-4 - 262 watts

Azimuth Indicator IP-93/URD-4 - 136 watts

Antenna AS-514/URD-4 - 120 watts

v. TABLES:

(1) EQUIPMENT LISTS:

(a) EQUIPMENT SUPPLIED:—Table 1-1 lists the equipment supplied for Direction Finder Set AN/URD-4.

(b) EQUIPMENT REQUIRED BUT NOT SUPPLIED:—Table 1-2 lists equipment required for Direction Finder Set AN/URD-4, but not supplied.

(c) SHIPPING DATA:—Table 1-3 lists shipping data.

(d) ELECTRON TUBE COMPLEMENT:—Table 1-4 lists quantity and types of electron tubes versus major units.

TABLE 1-1. EQUIPMENT SUPPLIED

QUANTITY	NAME OF UNIT	NAVY TYPE DESIGNATION	OVER-ALL DIMENSIONS			VOLUME	WEIGHT
			HEIGHT	WIDTH	DEPTH		
1	Antenna	AS-514/URD-4	78.80	18.75 outer dia			115
1	Mast	AB-198/U	240	9.28 outer dia			36 per section
1	Receiver Group Contained in:	OA-485/URD-4					182
	Cabinet Including:	CY-890/URD-4	23.36	21.56	20.70	6.0	
1	Power Supply	PP-556/URD-4					
1	Radio Receiver	R-353/URD-4					
1	Azimuth Indicator Contained in:	IP-93/URD-4					96
	Electrical Equipment Cabinet	CY-1304/URD-4	13.28	21.00	29.10	4.6	
1	Radio Test Set	TS-777/URD-4	6.50	8.00	3.50	.104	4
1	Special Purpose Electrical Cable Assembly	CX-2356/U (3'10")					
1	Special Purpose Electrical Cable Assembly	CX-2357/U (3'11")					
1	Special Purpose Electrical Cable Assembly	CX-2358/U (3'8")					
1	Radio Frequency Cable Assembly	CG-1068/U (1'6")					
1	Radio Frequency Cable Assembly	CG-1068/U (3'0")					
2	Instruction Book						
1	Electrical Clamp						
1	Connector plug, female						
2	Connector, r-f	UG-154/U					
3	Dust cap						
120	Solder lug						
6 ft	Tubing, transparent						
1	Spare Parts Box						

Dimensions in inches, volume in cubic feet, weight in pounds.

TABLE 1-2. EQUIPMENT REQUIRED BUT NOT SUPPLIED

QUANTITY PER EQUIPMENT	NAME OF UNIT	NAVY TYPE DESIGNATION	REQUIRED USE	REQUIRED CHARACTERISTICS
1	Headset	-49016	For audio reception with Radio Receiver R-353/URD-4	600-ohm impedance
4	Guy wires		For mast, if necessary	Vary with installation
1	Target transmitter		To orient Antenna AS-514/URD-4	As described in section 3, paragraph 3c.

TABLE 1-3. SHIPPING DATA

(To be supplied)

TABLE 1-4. ELECTRON TUBE COMPLEMENT

UNIT	NUMBER OF TUBES OF TYPE INDICATED																
	1Z2	5CP12	5R4WGY	6AS6	6AS7G	6F4	6L6GA	6X4W	5651	5654/6AK5W	5670	5686	5726/6AL5W	OA2	OA3/VR75	OC3/VR105	TOTAL NUMBER OF TUBES
Radio Receiver R-353/URD-4				9		3				5	12	1	3				33
Azimuth Indicator IP-93/URD-4	2	1	1	7	1		1	1	1		7		2	2	1		27
Power Supply PP-556/URD-4			1	1	1											1	4
Total Number of Each Tube	2	1	2	17	2	3	1	1	1	5	19	1	5	2	1	1	64

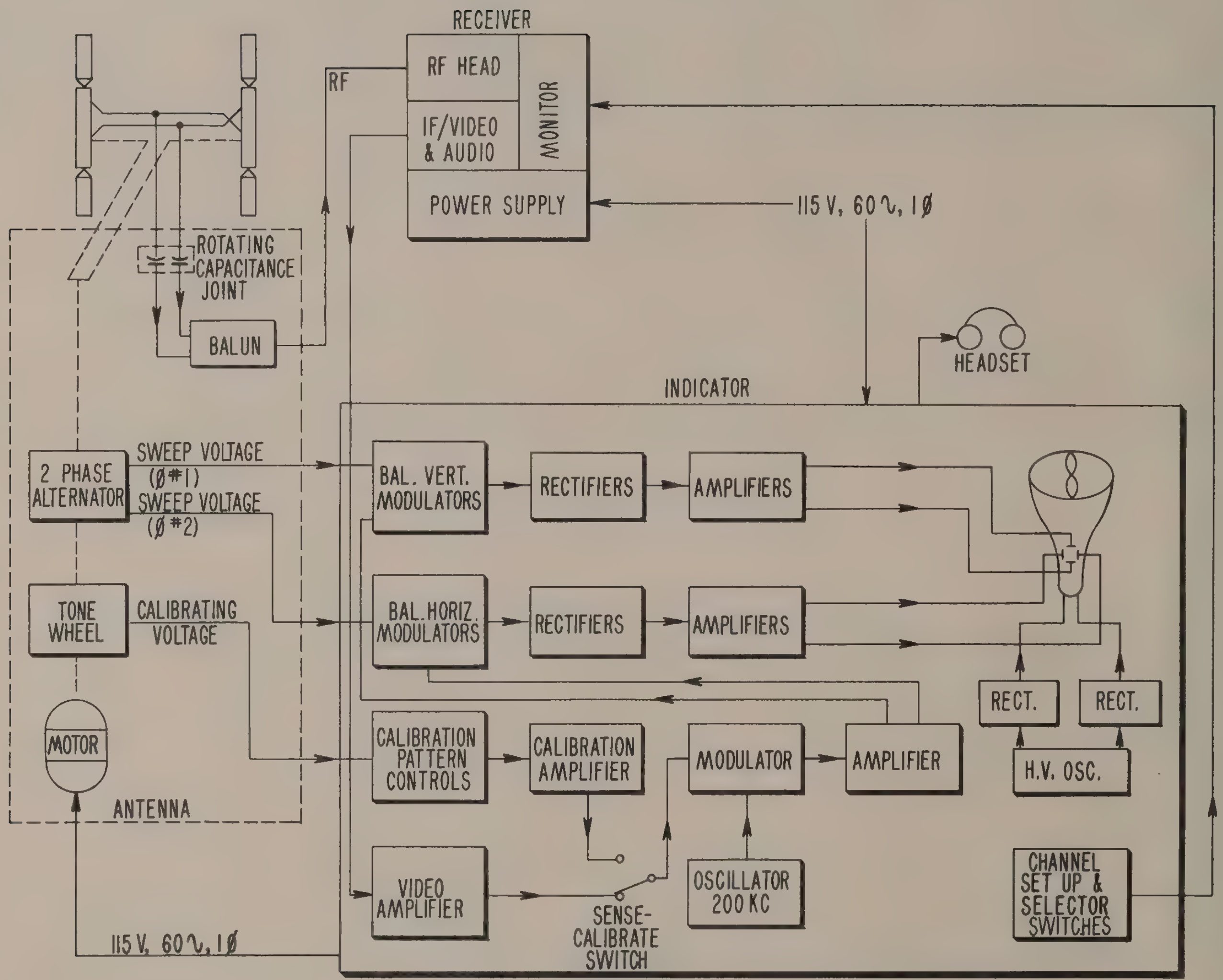


Figure 2-1. Direction Finder Set AN/URD-4, Over-all Functional Block Diagram

SECTION 2

THEORY OF OPERATION

1. GENERAL DESCRIPTION OF CIRCUITS.

a. OVER-ALL SYSTEM.--Direction Finder Set AN/URD-4 produces a visual indication of the bearing of a signal. This is accomplished, fundamentally, by means of an indicator unit displaying the output of a receiver. Figure 2-1 is an over-all functional block diagram of the direction finder set; reference to this illustration will prove helpful in following the general description of the circuits of the direction finder set.

The antenna, a two-dipole, rotating Adcock array, is most sensitive to a signal in the same plane of the dipoles and is least sensitive when the dipoles are broadside to the signal. Each time a dipole passes through a line of the signal, maximum r-f voltage is generated in the antenna. Since there are two dipoles in the antenna, a modulated r-f voltage is generated when a signal is received. This modulated r-f voltage is the video signal fed to the receiving portion of the equipment.

The rotating portion of the antenna is coupled to the stationary portion through a rotating capacitance joint. A two-phase alternator generates horizontal and vertical sweep voltages for application to the horizontal and vertical deflection plates of the cathode-ray tube of the indicator to form a circular sweep pattern. Calibrating voltage, for calibration of the indicator unit, is generated by a tone wheel. The antenna array, the two-phase attenuator, and the tone wheel are driven by the antenna drive motor.

R-f antenna voltage is fed to the receiver through balance-to-unbalance device, referred to as a "balun". The balanced output of the antenna is unbalanced by the balun to allow r-f voltage to be transmitted to the receiver by means of a coaxial cable. The r-f head, essentially a tuned amplifier stage, is designed to receive a predetermined signal frequency from the antenna. The receiving frequency of the r-f head, in turn, is determined by the monitor. The monitor samples the frequency output of a variable-frequency oscillator in the r-f head and drives a tuning motor until the frequency is such that, when mixed with various monitor frequencies, it approximately equals the monitor discriminator frequency. When the tuning motor stops, a reactance tube in the r-f head places the variable-frequency oscillator exactly on the frequency desired.

In the r-f head, the antenna signal is amplified and beaten against the output of the variable-frequency oscillator to produce an i-f signal. A single stage amplifies the i-f signal.

The i-f video-audio chassis accepts the i-f signal and reconverts it to a still lower i-f signal. The converted i-f signal is then amplified and detected, before being fed to the indicator. Any audio modulation impressed on the signal can be heard by means of headphones at either the receiver or the indicator.

The detected signal is fed to a stage of amplification in the indicator and then is utilized to modulate a 200-kilocycle carrier. The modulated carrier is fed to balanced modulator stages, designed to assure pattern symmetry of the visual signal. The balanced modulator stages also receive the horizontal and vertical sweep voltages from the antenna.

When there is no signal from the receiver, the sweep voltages, with their 90-degree phase difference, cause a circular pattern to appear on the cathode-ray tube. The arrival of a signal from the receiver causes a propeller-shaped pattern to appear, which points along the null of the received signal. Activation of the sense circuit in the antenna shifts the phase of the antenna signal, interchanges sweep voltage to the balanced modulators and rotates the pattern 90 degrees. The "sensed" pattern forms an inverted "V" the apex of which points in the signal direction, thereby circumventing the 180-degree ambiguity which exists in the propeller-shaped pattern.

b. FREQUENCY CONTROL SYSTEM.--The direction finder set is provided with a frequency control system which divides the frequency tuning range of the set (225.0 to 399.9 mc) into two bands - a high band and a low band. The low band controls frequencies from 225.0 to 299.9 megacycles, the high band controls frequencies from 300.0 to 399.9 megacycles. Essentially, the frequency control system performs in the following manner: A sample of the output of a variable frequency oscillator (vfo) in the r-f head is beaten against a series of crystal-controlled frequencies to produce a frequency to be fed to a crystal-controlled discriminator. The discriminator's output, in turn, causes the frequency of the vfo to approach the correct frequency, that frequency being determined by the selection of the various crystal-controlled frequencies.

The following is a general description of the frequency control system:

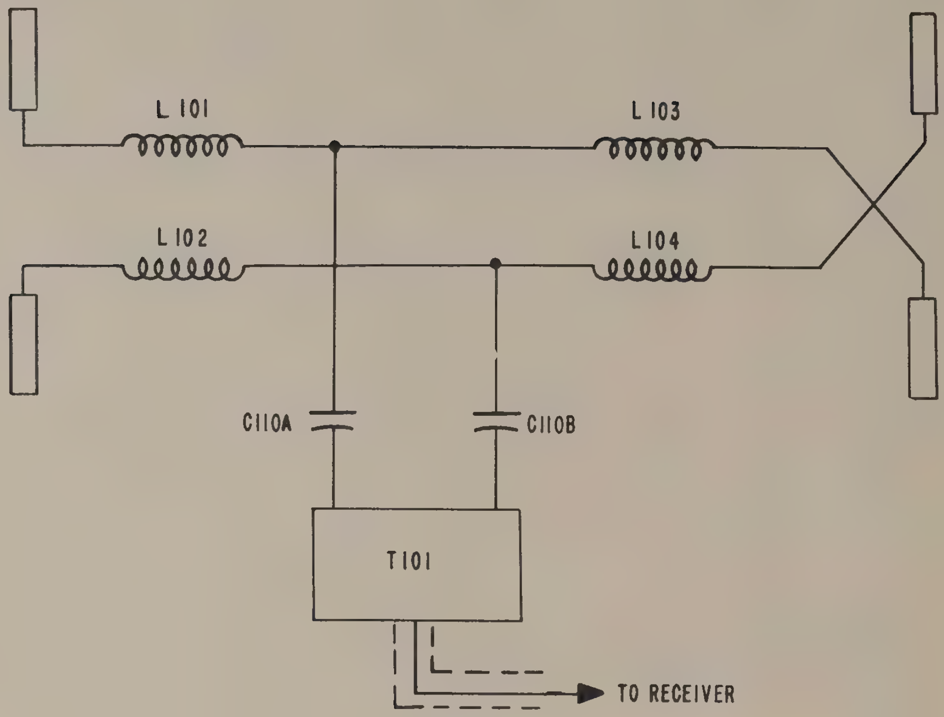
The first crystal oscillator produces a single frequency which is fed into both a frequency quintupler and a harmonic generator. The harmonic generator, as its name implies, produces a number of harmonics of the single frequency. Ten of these harmonics, ranging from the fourth to the thirteenth harmonic of the single frequency, may be extracted from the harmonic generator.

The first mixer combines the output of the vfo with the selected output of the harmonic generator to produce a beat frequency. If the monitor is set to a frequency in the 200-megacycle range, the output of the first mixer is fed to a low band-pass filter, is passed along to a band-pass amplifier, and is fed to a second band-pass filter. When the monitor is set to a frequency in the 300-megacycle range, the first mixer output is fed to a high band-pass filter, and, in turn, is mixed with the tenth harmonic of the first crystal oscillator, at the second mixer, to produce a beat frequency and then fed to the second band-pass filter.

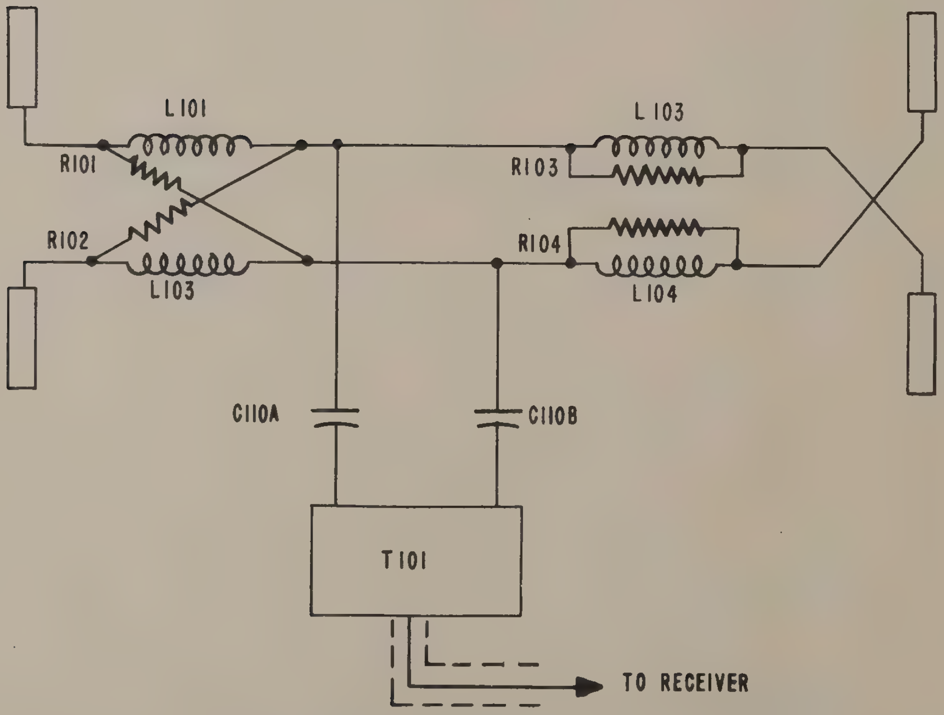
The second crystal oscillator provides a choice of five frequencies. The third mixer combines the output of the second band-pass filter with the selected output of the second crystal oscillator to produce a beat frequency to be fed to the third band-pass filter.

Two frequencies are fed to the discriminator - the output from the fourth band-pass and the selected frequency of the fourth crystal oscillator. The discriminator is a phase-sensitive device in that it develops an output voltage which is the resultant of any deviation in phase between the two frequencies. When the two input frequencies are exactly 90 degrees out of phase, the discriminator voltage output is zero. (In actual operation, zero error voltage is slightly positive.) Any deviation in phase develops a positive or negative discriminator output voltage, the voltage polarity depending upon whether the fourth band-pass filter frequency is leading or lagging the fourth crystal oscillator frequency in phase.

The discriminator output voltage is fed to a motor control amplifier to control a tuning motor which drives the vfo tuning capacitor. The discriminator output and associated circuits cause the tuning motor to tune the vfo to that



A. D/F OPERATION



B. SENSE OPERATION

Figure 2-2. Antenna AS-514/URD-4, D/F and Sense Operation, Simplified Schematic Diagram

frequency which, when fed through the monitor unit, is approximately the same frequency as that of the fourth crystal oscillator. When the frequency of the vfo is close to the desired operating frequency, the reactance tube takes over control of the vfo to bring it to the exact frequency.

Since the discriminator voltage output tunes the vfo to a frequency which equals the sum of all the crystal-controlled frequencies, it follows that the vfo frequency may be changed a given amount by changing any one of the crystal-controlled frequencies the same amount.

c. CHANNEL SELECTION SYSTEM.--The setting of tabs on a "memory" cylinder determines which 20 of the 1750 available frequencies will be selected by remote control as the channel frequencies. When the preset channel selector switch is turned from one position to another, bridge circuits are unbalanced and the automatic selection of the new frequency is begun. The unbalanced circuits put into operation relays which rebalance the circuits for the new positions of the channel selector switches. The positions of these switches which balance the bridge circuits are also the switch positions which select the proper combination of frequencies of the harmonic generator and of the second, third, and fourth crystal oscillators.

2. CIRCUIT ANALYSIS.

a. ANTENNA AS-514/URD-4.--The antenna is a two-dipole, Adcock array with means of rotating the array. Figure 7-26 is a schematic diagram of the antenna. Normally, the antenna is electrically as pictured in A of figure 2-2 and the antenna field pattern is approximately a figure eight. When the sense circuit is put into operation, relay K101 is energized and the network is electrically as illustrated in B of figure 2-2. This addition of resistance to the network creates a phase shift in the field response pattern of the antenna, with the figure eight distorted so as to form an inverted "V", the apex of which points in the direction of the signal origin.

The output of the array is balanced to ground. To permit the use of coaxial cable for transmitting the output of the array to the receiver, the output is unbalanced. This balance-to-unbalance condition is created by balun T101. The rotating array is coupled to the stationary portion of the antenna through capacitor C102.

Antenna drive motor B101 rotates the antenna array and also drives generator G101 and wheel E101. As the plane of an antenna dipole passes through a line of maximum signal, maximum voltage output is obtained from the antenna array. The r-f signal fed to the receiver from the antenna is a modulated signal.

Generator G101 is a two-phase alternator generating two sweep voltages, with a 90-degree phase difference between sweep voltages. The sweep voltages are applied to the vertical and horizontal deflection plates of the indicator's cathode-ray tube for the purpose of deflecting the tube's electron beam in a circle.

Wheel E101, in conjunction with calibration field coil L105 and capacitor C104, generates a 36-lobe "daisy" pattern on the indicator's cathode-ray tube. The 36-lobe pattern is used to calibrate the indicator.

b. RECEIVER GROUP OA-485/URD-4.

(1) CABINET CY-890/URD-4.—The receiver cabinet serves as a tie-point for cabling to the receiver and power supply. The schematic diagram of the receiver cabinet is illustrated in figure 7-28.

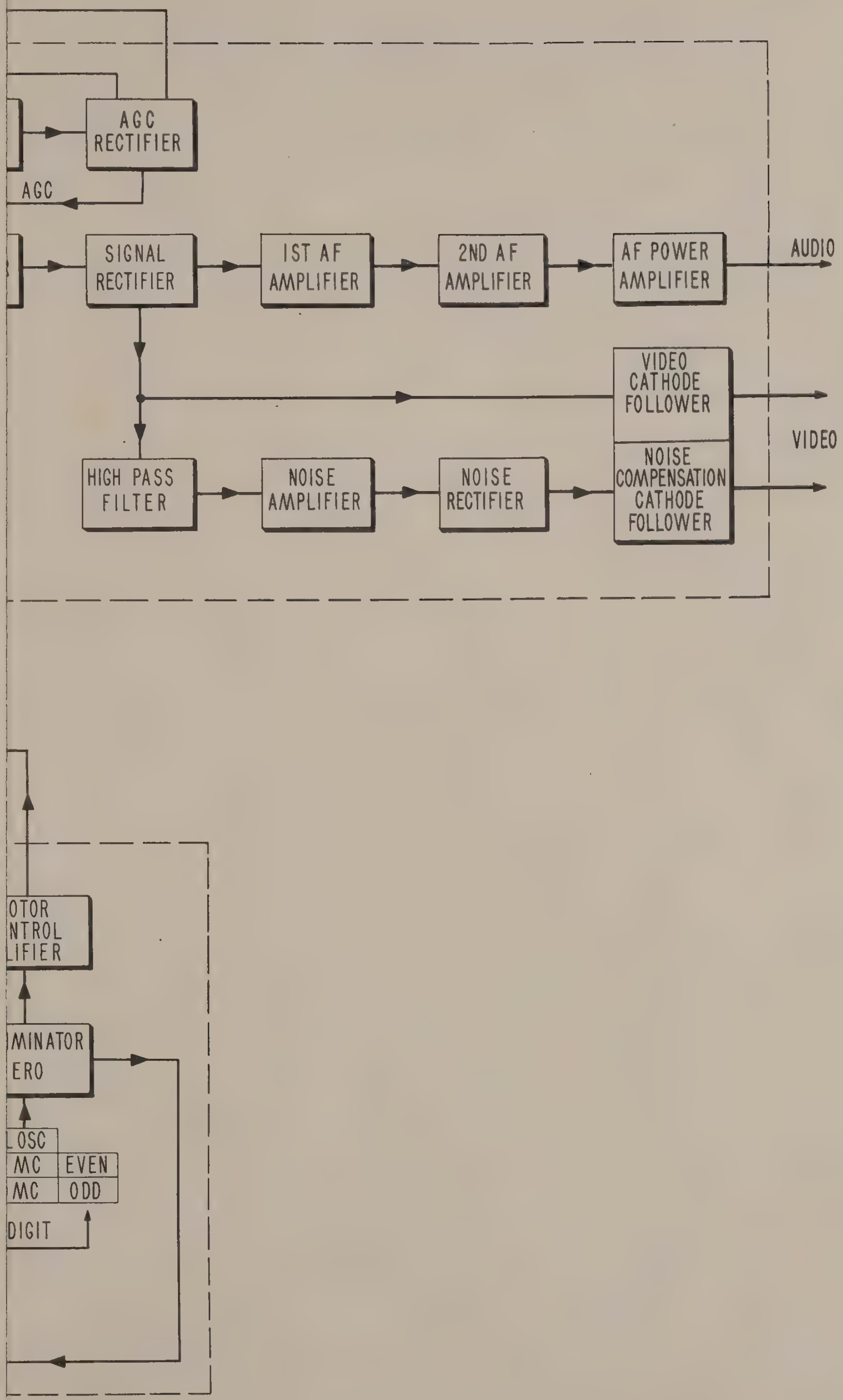
(2) RECEIVER FRAME.—The receiver frame functions as the tie-point for the sub-units of the receiver. The schematic diagram of the receiver frame is illustrated in figure 7-30.

(3) RADIO RECEIVER R-353/URD-4.—Figure 2-3 is a simplified over-all block diagram of the receiver, illustrating the make-up of the unit.

(a) R-F HEAD.—The signal from the antenna is fed to the r-f head of the receiver. The r-f head is illustrated schematically in figure 7-32.

First r-f amplifier V208, second r-f amplifier V207, first mixer V206, and frequency doubler V205 are capacitance-tuned, the capacitance being contained within cavities. This type of tuning in the r-f head is utilized in order to obtain a high Q and to provide frequency stability.

A of figure 2-4 illustrates the physical construction of the cavity, while B of figure 2-4 is its electrical equivalent. The center-post of the cavity acts as an inductance L. In conjunction with ganged capacitors C1, C2, and C3, L is electrically a quarter-wave-length rod whose base is grounded and whose opposite end is at a point of high impedance. The cavity is tuned to resonance by C1, C2, and C3. Capacitor C4 is a trimmer and inductor Lv is a tuning vane which can be utilized to adjust the inductance L.



o Receiver R-353/URD-4, Simplified Over-all Block Diagram

Antenna drive motor B101 rotates the antenna array and also drives generator G101 and wheel E101. As the plane of an antenna dipole passes through a line of maximum signal, maximum voltage output is obtained from the antenna array. The r-f signal fed to the receiver from the antenna is a modulated signal.

Generator G101 is a two-phase alternator generating two sweep voltages, with a 90-degree phase difference between sweep voltages. The sweep voltages are applied to the vertical and horizontal deflection plates of the indicator's cathode-ray tube for the purpose of deflecting the tube's electron beam in a circle.

Wheel E101, in conjunction with calibration field coil L105 and capacitor C104, generates a 36-lobe "daisy" pattern on the indicator's cathode-ray tube. The 36-lobe pattern is used to calibrate the indicator.

b. RECEIVER GROUP OA-485/URD-4.

(1) CABINET CY-890/URD-4.—The receiver cabinet serves as a tie-point for cabling to the receiver and power supply. The schematic diagram of the receiver cabinet is illustrated in figure 7-28.

(2) RECEIVER FRAME.—The receiver frame functions as the tie-point for the sub-units of the receiver. The schematic diagram of the receiver frame is illustrated in figure 7-30.

(3) RADIO RECEIVER R-353/URD-4.—Figure 2-3 is a simplified over-all block diagram of the receiver, illustrating the make-up of the unit.

(a) R-F HEAD.—The signal from the antenna is fed to the r-f head of the receiver. The r-f head is illustrated schematically in figure 7-32.

First r-f amplifier V208, second r-f amplifier V207, first mixer V206, and frequency doubler V205 are capacitance-tuned, the capacitance being contained within cavities. This type of tuning in the r-f head is utilized in order to obtain a high Q and to provide frequency stability.

A of figure 2-4 illustrates the physical construction of the cavity, while B of figure 2-4 is its electrical equivalent. The center-post of the cavity acts as an inductance L. In conjunction with ganged capacitors C1, C2, and C3, L is electrically a quarter-wave-length rod whose base is grounded and whose opposite end is at a point of high impedance. The cavity is tuned to resonance by C1, C2, and C3. Capacitor C4 is a trimmer and inductor Lv is a tuning vane which can be utilized to adjust the inductance L.

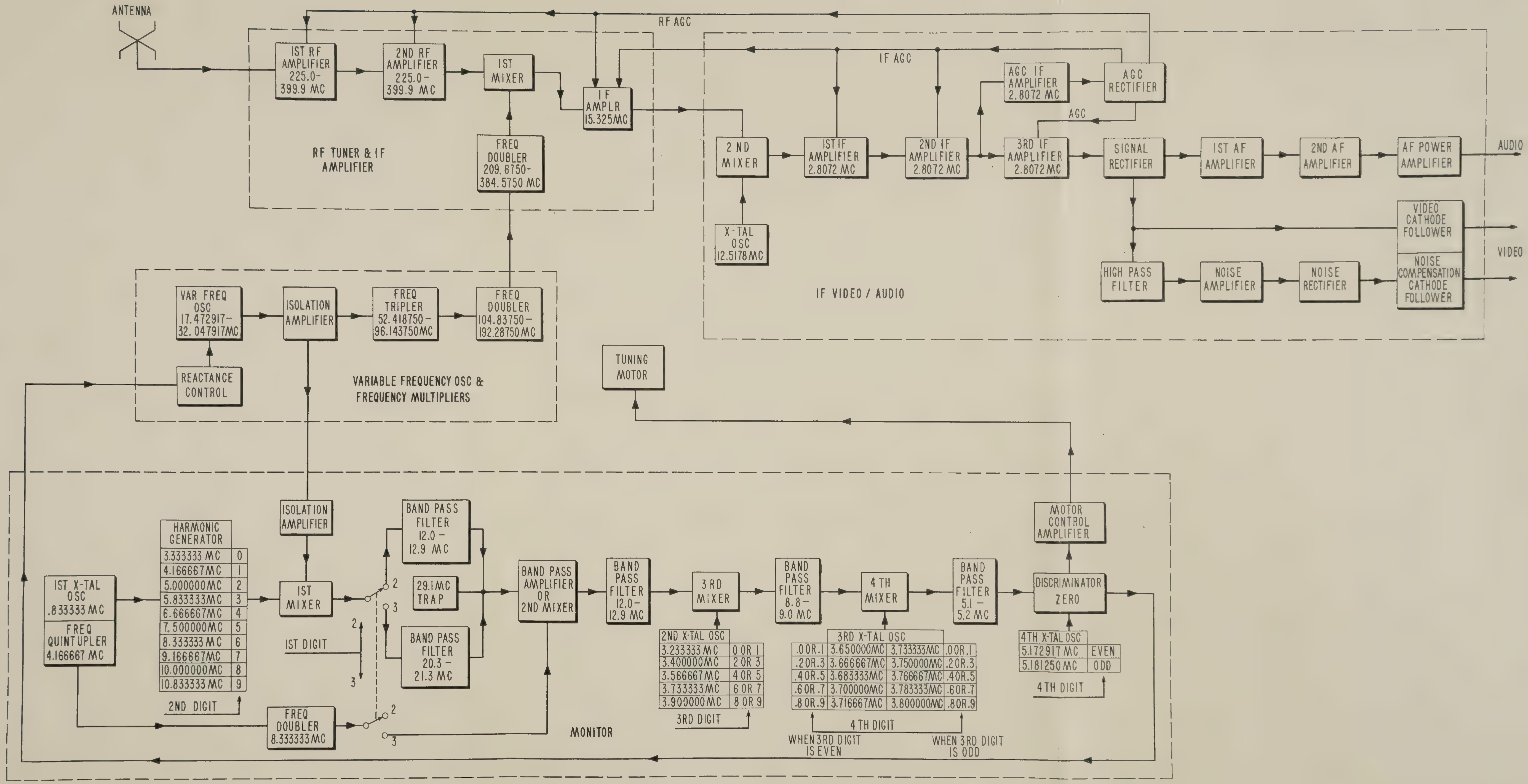
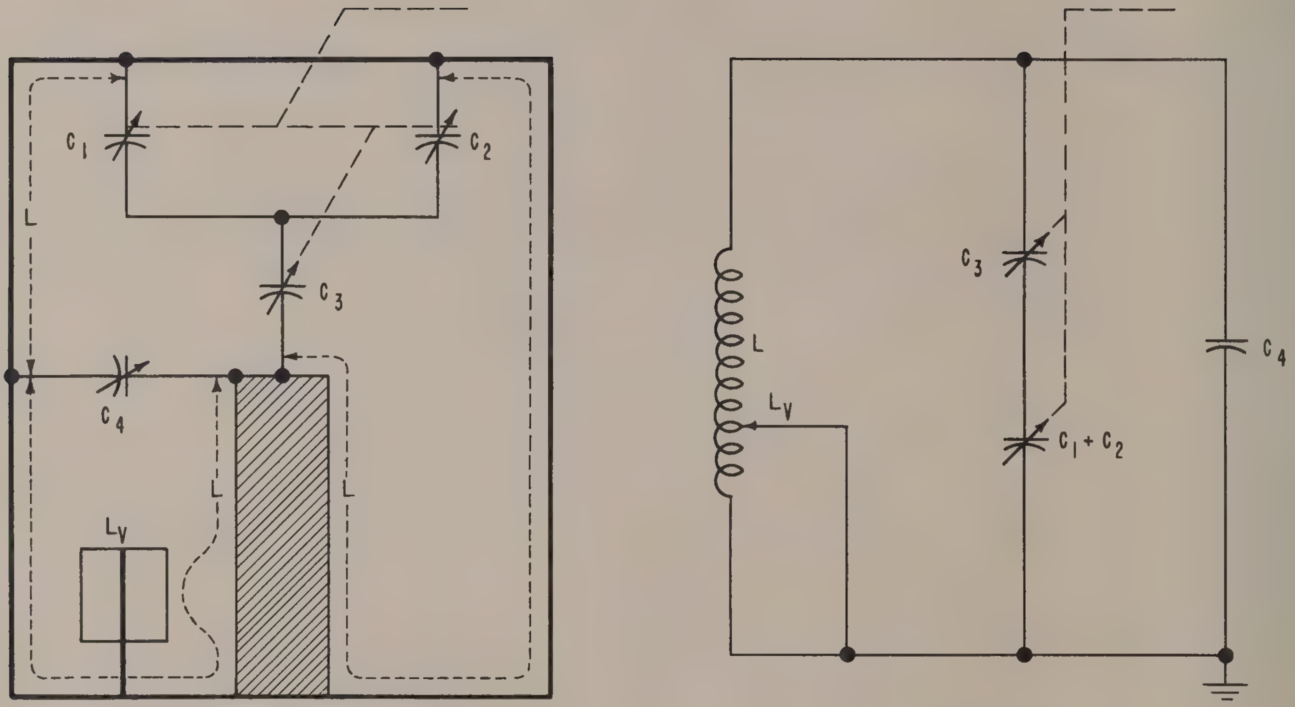


Figure 2-3. Radio Receiver R-353/URD-4, Simplified Over-all Block Diagram



A. PHYSICAL CONSTRUCTION
OF CAVITY

B. EQUIVALENT
CIRCUIT

Figure 2-4. R-F Head Cavity, Physical and Electrical Equivalent Circuits

Reactance tube V201 represents a variable, controllable reactance shunted across the tuned circuit of vfo V202A, the purpose of which is to convert a d-c control voltage from the monitor into a frequency variation of the vfo. D-c control voltage is fed through a decoupling network and filter to the control grid of V201. Resistors R203, R207, capacitor C206, and the grid-cathode capacitance of V201 form a phase-shift network which causes the r-f grid voltage to lag the plate voltage by approximately 90 degrees.

The plate of V201 is coupled to the tuned circuit of the vfo. Since the plate current of V201 is always in phase with the grid voltage, plate current lags the vfo r-f voltage by approximately 90 degrees. The current in an inductive reactance lags the applied voltage by 90 degrees; therefore, V201 appears to the vfo as an inductive reactance. By controlling the d-c bias of the grid with d-c control voltage, tube current and, in turn, inductive reactance, as seen by the vfo, is thus controlled. Positive control voltage increases current in V201, thereby decreasing inductive reactance in the vfo circuit and increasing vfo frequency; negative control voltage would tend to decrease vfo frequency. Cathode-bias resistor R202 is of such a value that a control voltage of approximately plus five volts dc is a zero error signal from the monitor.

The antenna input, through jack J201, is tapped down on the inductance of the first cavity at a point which provides an impedance match between the coaxial cable carrying the antenna signal and r-f amplifier V208. The cathode of V208 is also tapped down on the inductance of the center-post of the cavity. Use of grounded grid amplifier V207 and V208 lessen the possibility of self-oscillation in the antenna input stage by means of feedback through tube capacities.

The output of variable frequency oscillator (vfo) V202A is multiplied by 12 and mixed with the r-f signal in the first mixer to produce the first i-f signal of 15.325 megacycles. The i-f signal is then amplified by first i-f amplifier V209. The i-f output transformer Z202 matches the impedance of the 52-ohm coaxial cable carrying the i-f signal to the i-f video-audio chassis.

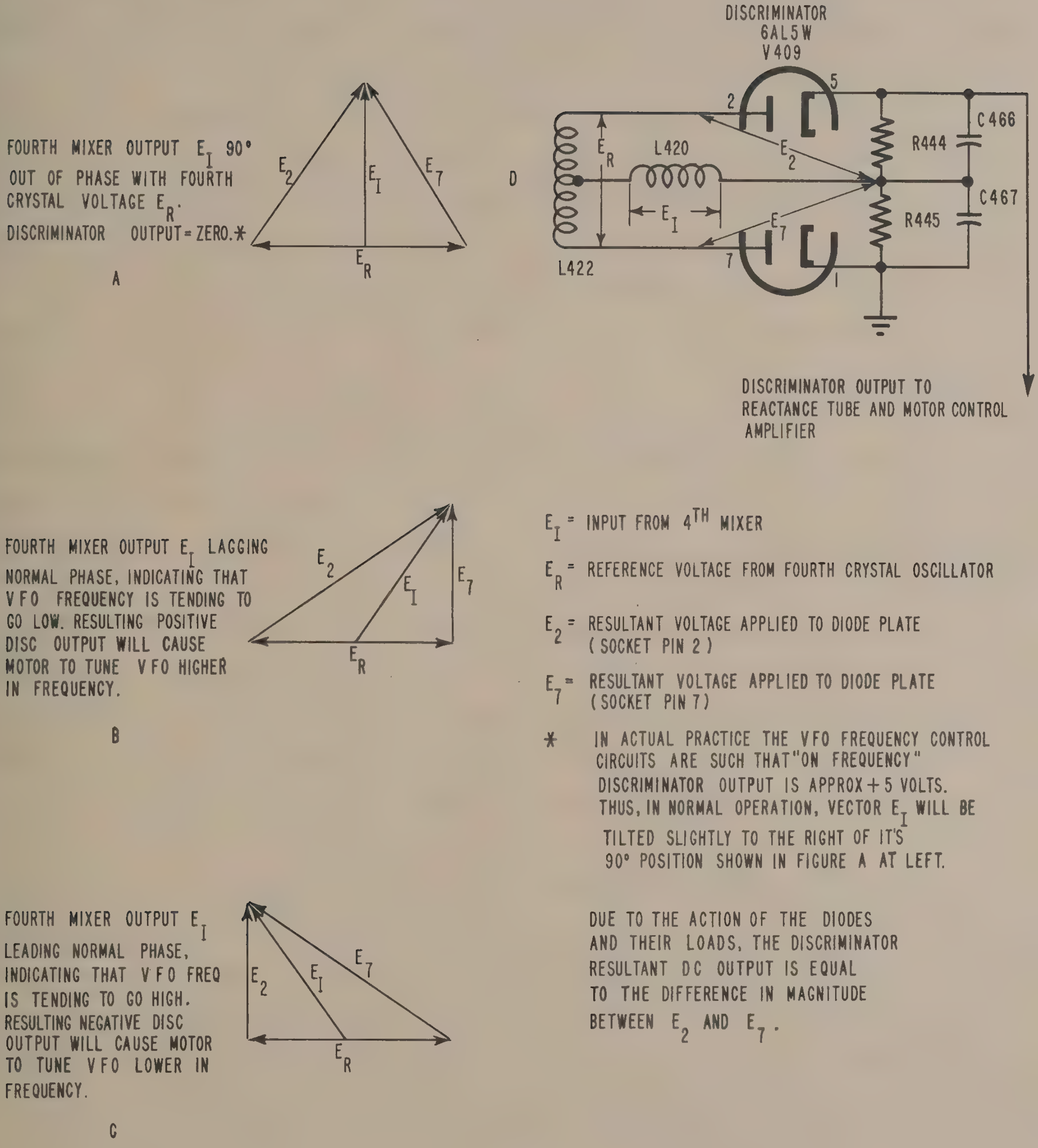
(b) MONITOR.—The monitor is designed to accomplish one purpose—that of frequency control of the variable frequency oscillator (vfo) in the r-f head. This purpose is achieved by controlling the tuning capacitor of the vfo by means of a motor driven by the monitor and by controlling the reactance tube shunted across the vfo. Figure 7-38 is a schematic diagram of the monitor.

First crystal oscillator V201A generates a frequency of 0.833333 megacycles. This fundamental frequency is fed to harmonic generator V403A. Frequency quintupler V401B selects the fifth harmonic of the fundamental frequency and feeds this harmonic to frequency doubler V403B to produce a frequency of 8.33333 megacycles, the tenth harmonic of the fundamental frequency. Crystal oven E401, contains two heaters and two thermostats. One heater brings the temperature of the crystal up to operating level quickly when the equipment is turned on; the other heater maintains the temperature of the crystal at the operating level. The thermostats cut off the heaters when proper levels of temperature have been attained.

Harmonics ranging from the fourth to the 13th harmonic, may be selected from harmonic generator V403A by tuning transformer Z401. This tuning is accomplished by 20-position rotary switch sections S403B and S403C. Switch sections driven by selector motor B401 select the proper fixed capacitor to be shunted across the primary and secondary of Z401. Voltage across the windings of Z401 is kept at a reasonably constant level by the operating conditions of V403A.

First mixer V402A combines the output of harmonic generator V403A with the output of the vfo in the r-f head, to produce a beat frequency. The plate circuit of V402A consists of a band-pass coil assembly Z403 which contains a high and low band-pass filter. If the equipment is set to receive a frequency in the 300- to 399.9-megacycle range, switch section S403A selects the high band pass; for a frequency in the 225- to 299.9-megacycle range, S403A selects the low band pass. Thus, the beat frequency is channeled through its proper band pass, and, in effect, the system has chosen the first digit of the desired frequency. The second digit of the desired frequency has been chosen from the harmonics available at V403A, these harmonics being utilized in either the high or low band.

Tube V404 functions either as a band-pass amplifier or as a second mixer. As a band-pass amplifier, V404 simply passes along the output of V402A, which is in the frequency range of 12.0 to 12.9 megacycles. As a second mixer, V404 combines the output of V402A with the output of frequency doubler



A

FOURTH MIXER OUTPUT E_I 90° OUT OF PHASE WITH FOURTH CRYSTAL VOLTAGE E_R. DISCRIMINATOR OUTPUT = ZERO.*

B

FOURTH MIXER OUTPUT E_I LAGGING NORMAL PHASE, INDICATING THAT VFO FREQUENCY IS TENDING TO GO LOW. RESULTING POSITIVE DISC OUTPUT WILL CAUSE MOTOR TO TUNE VFO HIGHER IN FREQUENCY.

C

FOURTH MIXER OUTPUT E_I LEADING NORMAL PHASE, INDICATING THAT VFO FREQ IS TENDING TO GO HIGH. RESULTING NEGATIVE DISC OUTPUT WILL CAUSE MOTOR TO TUNE VFO LOWER IN FREQUENCY.

D

DISCRIMINATOR OUTPUT TO REACTANCE TUBE AND MOTOR CONTROL AMPLIFIER

E_I = INPUT FROM 4TH MIXER

E_R = REFERENCE VOLTAGE FROM FOURTH CRYSTAL OSCILLATOR

E_2 = RESULTANT VOLTAGE APPLIED TO DIODE PLATE (SOCKET PIN 2)

E_7 = RESULTANT VOLTAGE APPLIED TO DIODE PLATE (SOCKET PIN 7)

* IN ACTUAL PRACTICE THE VFO FREQUENCY CONTROL CIRCUITS ARE SUCH THAT "ON FREQUENCY" DISCRIMINATOR OUTPUT IS APPROX + 5 VOLTS. THUS, IN NORMAL OPERATION, VECTOR E_I WILL BE TILTED SLIGHTLY TO THE RIGHT OF IT'S 90° POSITION SHOWN IN FIGURE A AT LEFT.

DUE TO THE ACTION OF THE DIODES AND THEIR LOADS, THE DISCRIMINATOR RESULTANT DC OUTPUT IS EQUAL TO THE DIFFERENCE IN MAGNITUDE BETWEEN E_2 AND E_7.

Figure 2-5. Discriminator V409 Operation, Simplified Diagram

V403B to produce a beat frequency in the range of 12.0 to 12.9 megacycles. If the equipment is set to operate in the high band of its frequency range, plate voltage is applied to V403B; for low-band operation, the plate voltage of V403B is cut off.

Second crystal oscillator V406A, a Colpitts-type oscillator with its plate operating at r-f ground potential, provides a means of generating five frequencies, frequency selection being controlled by crystal switch S404C. The crystals are contained in crystal oven E402 where they are kept at operating temperature. The selected output of V406A is combined with the 12.0- to 12.9-megacycle band-pass filter output at third mixer V405 to produce a beat frequency in the 8.8- to 9.0-megacycle range.

Third crystal oscillator V406B is a duplicate of V406A, employing another set of crystals to produce 10 different frequencies. The selected frequency of V406B is combined with 8.0- to 9.0-megacycle band-pass filter output at the fourth mixer V407 to produce a beat frequency in the 5.1- to 5.2-megacycle range.

Discriminator V409 receives two inputs—one from the fourth crystal oscillator V410, the other from the fourth mixer V407. The purpose of V409 is to indicate the phase deviation between the two inputs, the magnitude of the discriminator output indicating the extent of deviation, the polarity of the output indicating the direction deviation. Figure 2-5 is a simplified diagram of discriminator V409 operation.

Output from V409 is applied to both motor control amplifier V411 and to reactance tube V201 in the r-f head. The output of tube V411 is fed to relays which run tuning motor B201 in the r-f head, B201 being the means by which the tuning capacitor, and consequently the frequency, of the vfo is controlled. Tuning motor B201 drives the vfo tuning capacitor until the output of discriminator V409 falls to approximately five volts dc. The approximate five volts dc provides a positive means of identification of the output of V409; if zero volts were chosen as an indication of "no error", an ambiguity would exist in the fact that zero volts could also be obtained from the discriminator when the tuning error was so large that no signal passed through the monitor.

A portion of the output of fourth mixer V407 is fed to clutch control V408 where it is rectified and amplified before application to clutch control relay K601. Relay K601 is designed to help shift the r-f tuning drive system from medium speed to low speed. When there is an output from V407, resulting current flows through resistor R439, drives the grid of V408A negative and cuts off current flow. Relay K601, normally energized by current flow from V408A, is thus de-energized, and places the low-speed clutch in operation at the same time disengaging the medium-speed clutch.

Motor control V411 receives the output of discriminator V409 and utilizes it to control, by means of low discriminator relay K602 and high discriminator relay K603, tuning motor B201.

Relay K603, in the plate circuit of V411A is normally de-energized; relay K602, in the plate circuit of V411B is normally energized. When the vfo is on channel, the approximate five volts dc from V409 to the control grid of V411A is enough to energize relay K603, and tuning motor B201 is kept dynamically locked in place. When a new channel is selected, the output of V409 will cause relay K602 or K603 to be energized and tuning motor B201 will be driven so as to select a new frequency for the vfo. With the vfo in its new frequency, both relays are again energized and tuning motor B201 remains at a standstill. When the vfo is off channel and selector motor B401 is setting up the system for selection of a new frequency, the clutch relays of the monitor are energized and the cathodes of motor control V411 are tied to 27.5 volts dc, thus biasing the tube to cutoff. Biasing of V411 to such an extent results in both relay K602 and K603 being de-energized and tuning motor B201 is prevented from running.

(c) I-F VIDEO-AUDIO CHASSIS.—The i-f video-audio chassis is the means by which the i-f signal is amplified and detected. The chassis also provides automatic gain control (AGC) circuits for application to the r-f head and an audio squelch circuit. Figure 7-41 is the schematic diagram of the i-f video-audio chassis.

The 15.325-megacycle i-f signal from the r-f head is applied to the second mixer V302, where it is combined with oscillator V301 to lower the if. to 2.8072 megacycles. Oscillator V301 is a conventional Pierce oscillator, crystal-controlled, with V301 utilized as a triode.

First if. V303, second if. V304, and third if. V305 provide a three-stage transformer-coupled cascade amplifier circuit for the i-f signal.

Output of second i-f amplifier V304 is also fed to AGC amplifier V307; the output of V307 is rectified by i-f AGC diode V308A. The rectified voltage, the i-f AGC voltage, is applied to V209, V303, V304, and V305 and is designed to keep the audio-video output at a constant level.

A portion of the output of AGC amplifier V308 is fed to i-f AGC diode V307B where it is rectified and clamped by r-f AGC clamping diode V311B. This rectified voltage, the r-f AGC voltage, is not applied until the signal strength is sufficient to provide adequate signal-to-noise reception.

The first audio amplifier V309A receives the detected audio voltage from signal diode V306B and couples it to second audio amplifier V311A. The gain of the audio signal is controlled by varying potentiometer R604. Audio output V312, a power amplifier, deliveres the audio signal to a headset connection through transformer T301, the audio signal being muted until the equipment is on channel.

The video component of the detected signal from V306A is applied to the indicator through video follower V313B. Noise superimposed upon the detected video signal passes through a high-pass filter contained in the grid circuit of noise amplifier V310A and is amplified in V310A. The amplified noise is then detected by noise diode V306A and fed to the indicator through noise follower V313A as noise compensation voltage.

Normally, the grid-cathode potential of V311A is approximately zero. Therefore, current flows through its plate load resistor R357 which biases the audio amplifier V309A beyond cutoff, so no audio signal will pass through it. When a carrier signal is detected by signal rectifier V306A and fed to the grid of V311A, cutting off its plate current, the bias on the audio amplifier V309A increases in a positive direction to normal and therefore any audio signal is now amplified. The squelch is disabled by advancing the r-f gain control to a point where the noise voltage rectified by V306A is sufficient to bias V311A to cutoff. Video is not affected by action of squelch circuit. The squelch circuit may be disabled by a switch located in the indicator.

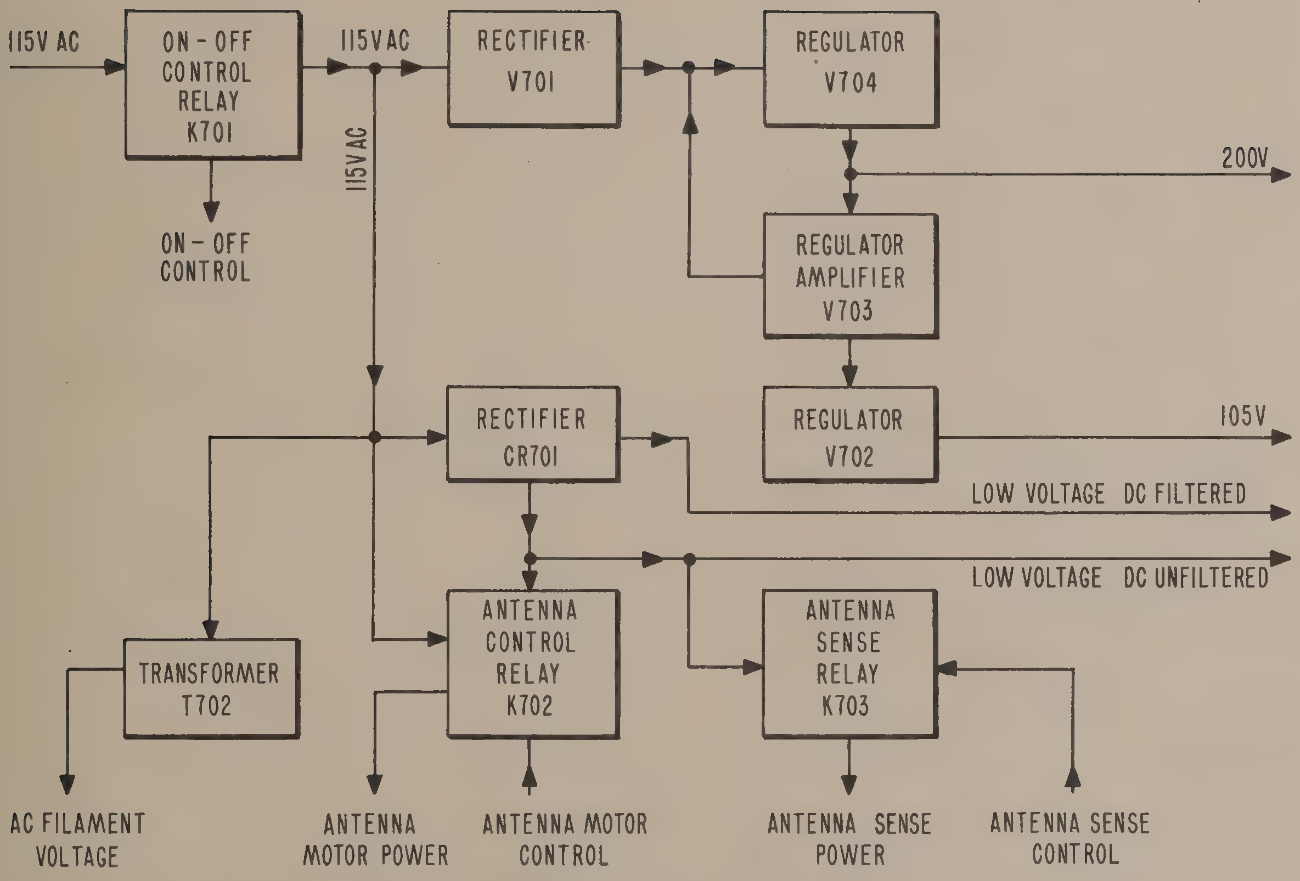


Figure 2-6. Power Supply PP-556/URD-4, Simplified Over-all Block Diagram

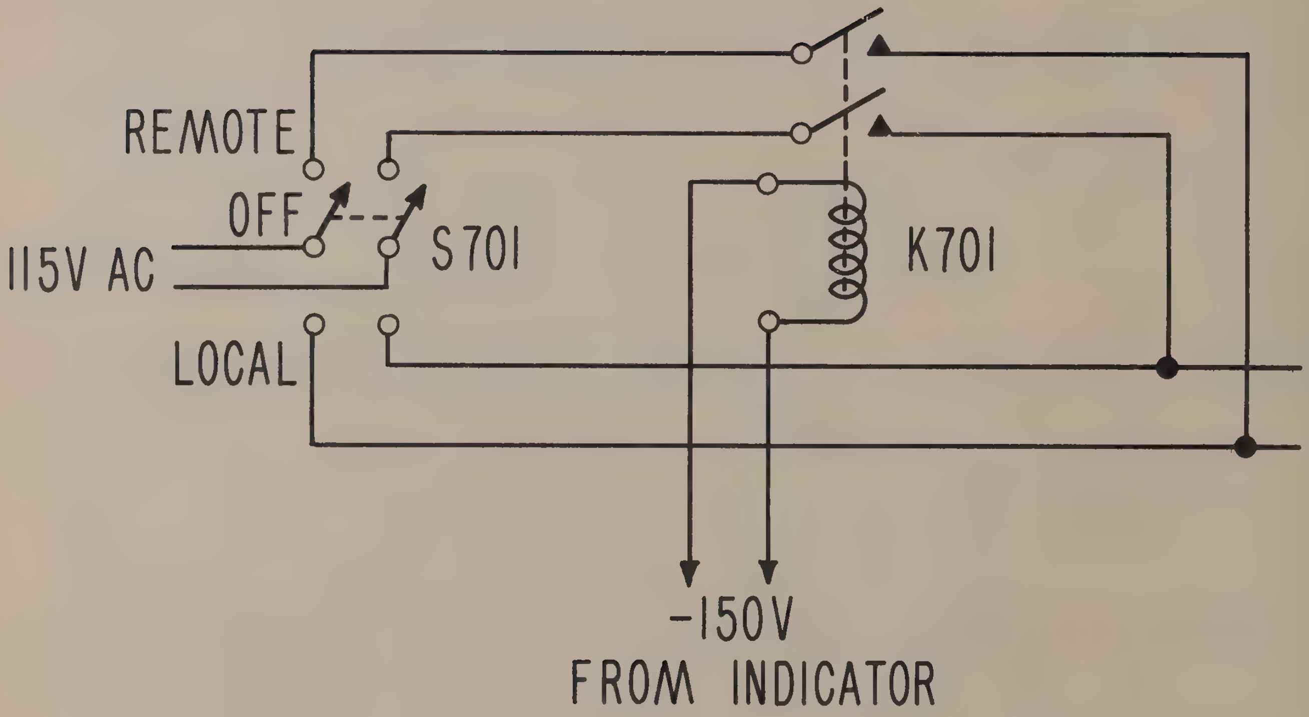


Figure 2-7. Relay K701 Circuit, Simplified Schematic Diagram

(4) POWER SUPPLY PP-556/URD-4.—The power supply provides all necessary operating voltages for the receiver. Figure 2-6 is a simplified over-all block diagram of the power supply; figure 7-43 is a schematic diagram of the power supply.

Relay K701 controls the application of the 115 volts ac to the power supply. The setting of the REMOTE-OFF-LOCAL switch in the receiver determines the energizing of relay K701. In the LOCAL position of the switch, relay K701 is energized and the 115 volts ac is applied to the power supply. Figure 2-7 is a simplified schematic of the circuit controlling relay K701.

Rectifier V701 converts the applied a-c voltage to pulsating d-c voltage; filtering is accomplished by capacitor C701 and inductor L701. The 200-volt d-c supply is taken from the bottom of the cathode resistors of regulator V704. Adjustment of potentiometer R709 provides means of selecting precisely 200 volts dc. Fluctuating loads are prevented from affecting the voltage output level of the power supply by regulator V704, regulator amplifier V703, and regulator V702. Tube V704 acts as if it were a variable resistance and compensates for the change of resistance in the load.

Regulator V702 ties the cathode of regulator amplifier V703 to a reference potential of 105 volts dc. The cathode of V702 thus provides a convenient point from which to obtain a second value of d-c potential—negative 105 volts dc.

Selenium rectifier CR701 rectifies stepped-down a-c voltage to low d-c voltage for the purpose of energizing various relays. The secondary of transformer T703 is provided with three "aging" taps to compensate for voltage changes likely to occur in CR701 as the selenium rectifier disks age with use.

Relay K702, the antenna motor control relay, and relay K703, the antenna sense control relay, are both energized by the unfiltered low-voltage dc by means of controls located on the indicator. The 200-volt d-c supply and the low-voltage d-c filtered supply can both be tested at test jack J703.

c. AZIMUTH INDICATOR IP-93/URD-4.—The indicator provides the means by which the detected signal is amplified, mixed with sweep voltages originating at the antenna, and presented to the cathode-ray tube for display. Electrical Equipment Cabinet CY-1304/URD-4, the indicator cabinet, serves as a tie-point

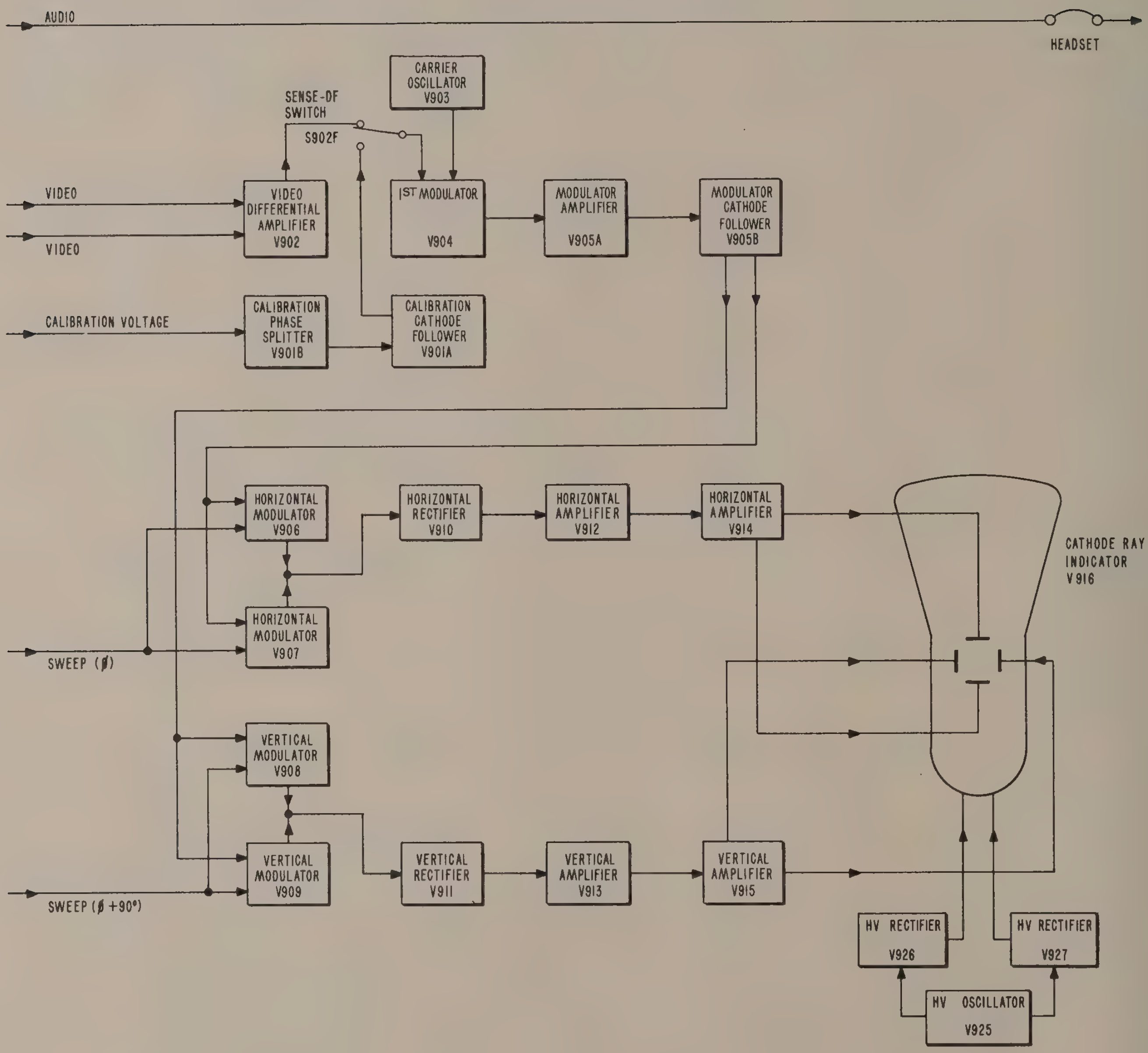

AUDIO
HEADSET
CARRIER OSCILLATOR V903
SENSE-DF SWITCH
S902F
VIDEO
VIDEO
VIDEO DIFFERENTIAL AMPLIFIER V902
1ST MODULATOR V904
MODULATOR AMPLIFIER V905A
MODULATOR CATHODE FOLLOWER V905B
CALIBRATION VOLTAGE
CALIBRATION PHASE SPLITTER V901B
CALIBRATION CATHODE FOLLOWER V901A
HORIZONTAL MODULATOR V906
HORIZONTAL RECTIFIER V910
HORIZONTAL AMPLIFIER V912
HORIZONTAL AMPLIFIER V914
CATHODE RAY INDICATOR V916
HORIZONTAL MODULATOR V907
SWEEP (ϕ)
VERTICAL MODULATOR V908
VERTICAL MODULATOR V909
VERTICAL RECTIFIER V911
VERTICAL AMPLIFIER V913
VERTICAL AMPLIFIER V915
SWEEP (ϕ +90°)
HV RECTIFIER V926
HV RECTIFIER V927
HV OSCILLATOR V925

Figure 2-8. Azimuth Indicator IP-93/URD-4, Over-all Block Diagram

for cabling to the indicator. Figure 7-45 is the schematic diagram of the indicator cabinet. Figure 2-8 is a simplified over-all block diagram of the indicator; figure 7-47 is the schematic diagram of the indicator.

The alternator voltages from the antenna, fed to the indicator, cause a circular pattern to appear on cathode-ray indicator V916 in the absence of a video signal. A video signal will cause the pattern to assume a propeller shape; noise, riding in with the video signal, would cause distortion of the propeller pattern. Both video and noise compensation voltages are applied to tube V902. Video is fed to video amplifier V902B; noise is fed to compensator V902A. Noise, superimposed upon the video signal, and noise compensation voltage will appear in phase on the grids of V902. The presence of two signals of like polarity on the grids of V902 prevents video amplification in V902B and the propeller pattern remains undistorted, despite noise riding in on the signal.

The video signal is fed to modulator V904 where it is utilized to modulate a 200-kilocycle carrier from carrier oscillator V903. The video modulated carrier permits application of the video to modulator stages, the tubes of which need not have matched characteristics.

Calibration voltage from the tone wheel in the antenna is also fed to the indicator. Switch S902F selects either the calibration or video voltage for application to the modulator V904. If calibration voltage is selected, it is utilized to modulate the 200-kilocycle carrier from carrier oscillator V903.

The modulated 200-kilocycle carrier is injected, by the way of suppressor grid, in horizontal modulators V906 and V907, and in vertical modulators V908 and V909. Horizontal alternator voltage is applied to the control grids of V906 and V907; vertical alternator voltage is applied to control grids of V908 and V909. The modulated signal is further modulated by the alternator voltages in each of the modulator tubes.

The modulated signal from each channel is rectified--the vertical component by rectifier V911 and the horizontal component by rectifier V910 and the carrier in each of the channels is removed. The detected signals are applied to amplifiers V912, V913, V914, and V915. The vertical plates of cathode-ray indicator V916 receive the vertical signal and horizontal plates of V916 receive the horizontal signal.

If switch S902F is in its D/F position, the video signal will be displayed in a propeller-shaped pattern. With S902F in CALIBRATE position, calibration voltage will be displayed as a 36-lobe pattern, which provides a means of calibrating the indicator.

The high voltage for cathode-ray indicator V916 is supplied by means of rectifying an r-f voltage generated by an oscillator. The output of oscillator V925 is rectified by rectifiers V926 and V927 and applied to the anodes of V916.

d. FREQUENCY CONTROL.--The front panel of the indicator contains a 20-position rotary turret assembly which is used for selecting a channel for direction-finding operation. "Memory" cylinder O901 fits inside the removable turret assembly and mechanically actuates various contacts of the channel selector switch S904. Arranged around the periphery of O901 are 20 evenly-spaced detented bars which are parallel to its longitudinal axis. Along each bar are four tabs which can be positioned laterally along the length of O901. The bars and their tabs are accessible through a slot in the cylinder case. By positioning the four tabs on a particular bar, in relationship to a series of indexing digits on the cylinder, a particular channel frequency can be set up. Of the 1750 frequencies available within the tuning range of the equipment, 20 can be selected as operating frequencies by presetting the cylinder.

To select one of the preset frequencies, channel selector switch S904 is turned from one position to another, mechanically, to unbalance bridge circuits. The channel selecting circuit contains three similar bridge circuits. Figure 2-9 is a simplified diagram of one of the bridge circuits whose operation is typical. The channel selector switch S904 selects a tap of its associated resistor. If the channel selector switch S904 and the rotary selector switch associated with S904 in a particular bridge circuit are not at the same tap on their respective resistors, a difference of potential exists at the ends of the bridge relay and the relay is energized. The energized bridge relay, in turn, causes its associated clutch relay to be energized.

The energized clutch relay releases its associated clutch face by pulling a pawl out of a detent plate notch. The released clutch face allows selector motor B401 to run and drive the wiper on the rotary selector switch until it

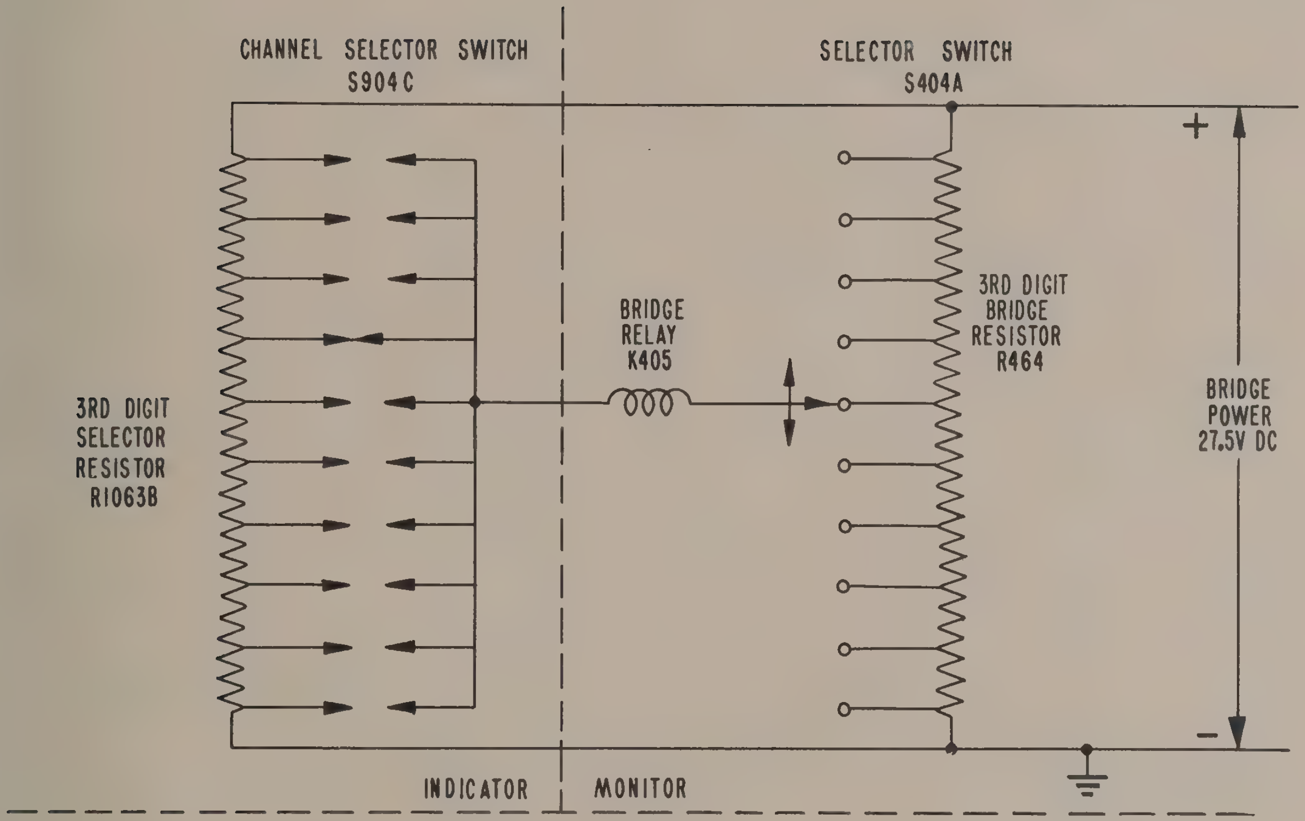


Figure 2-9. Bridge Circuit, Simplified Schematic Diagram

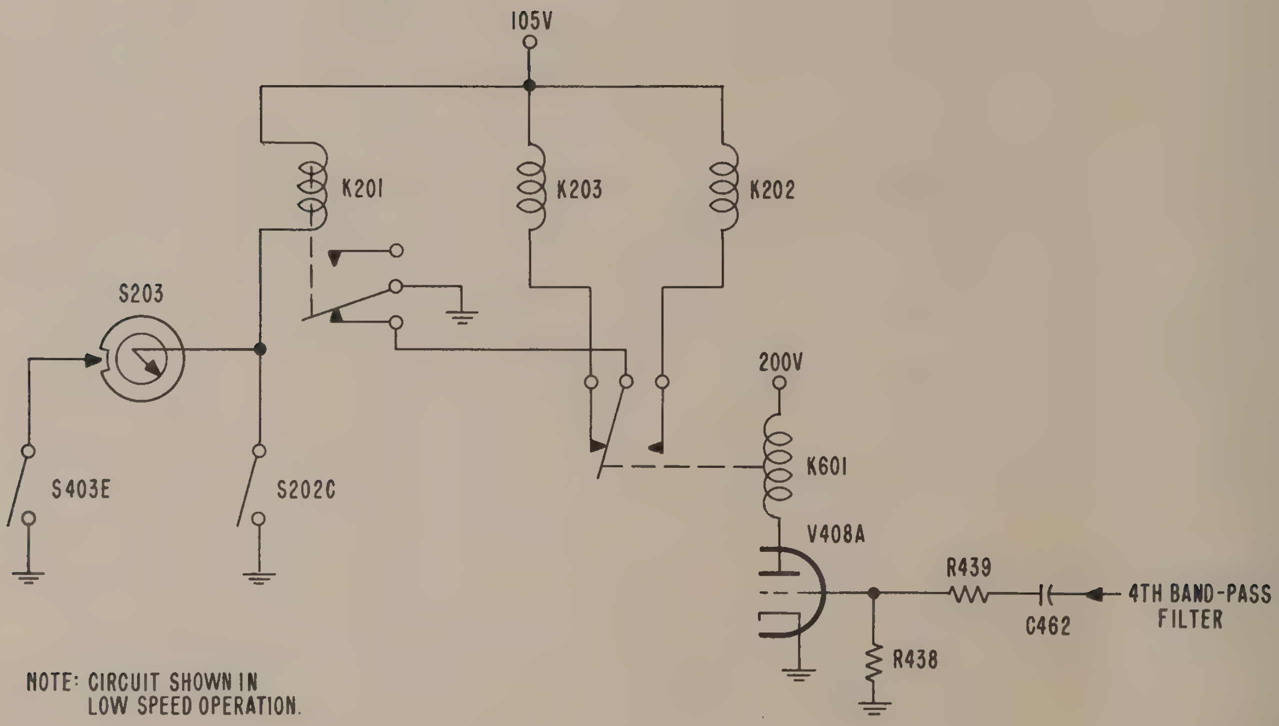


Figure 2-10. Speed Clutch Circuit, Simplified Schematic Diagram

reaches a tap where the bridge is balanced. The bridge and clutch relays are then de-energized and the clutch pawl drops into a slot on the detent plate, stopping the rotary selector switch. Clutches belonging to selector switches which reach their positions, continue to slip until the three bridges are all balanced and selector motor B401 is de-energized.

The balanced bridge circuits means that frequencies from the harmonic generator, and second, third, and fourth crystals have been selected, by means of the selector switches, the positions of which represent the digits of the desired operating frequency.

e. CHANNEL SELECTION.--With the bridge circuits balanced, tuning motor B201 is now set to seek the correct operating frequency by controlling the vfo in the r-f head. Motor control amplifier V411 has, as its two plate loads, low discriminator relay K602 and high discriminator relay K603. Relay K602 is designed to pull in at approximately three milliamperes and drop out at approximately 1.5 milliamperes; relay K603 is designed to pull in at approximately three milliamperes and drop out at about 1.5 milliamperes. The amount of plate current passed by V411 depends upon the polarity and amplitude of discriminator V409. When the vfo is far off frequency, as is the case when a new channel is selected, the discriminator output is zero.

When relay K602 is energized, d-c voltage is applied to tuning motor B201 and is of such polarity that the vfo is driven by its tuning capacitor towards a lower frequency. If relay K603 is energized, the vfo is driven towards a higher frequency. When both relays are energized, B201 is dynamically braked, for at this point the vfo is on the correct frequency.

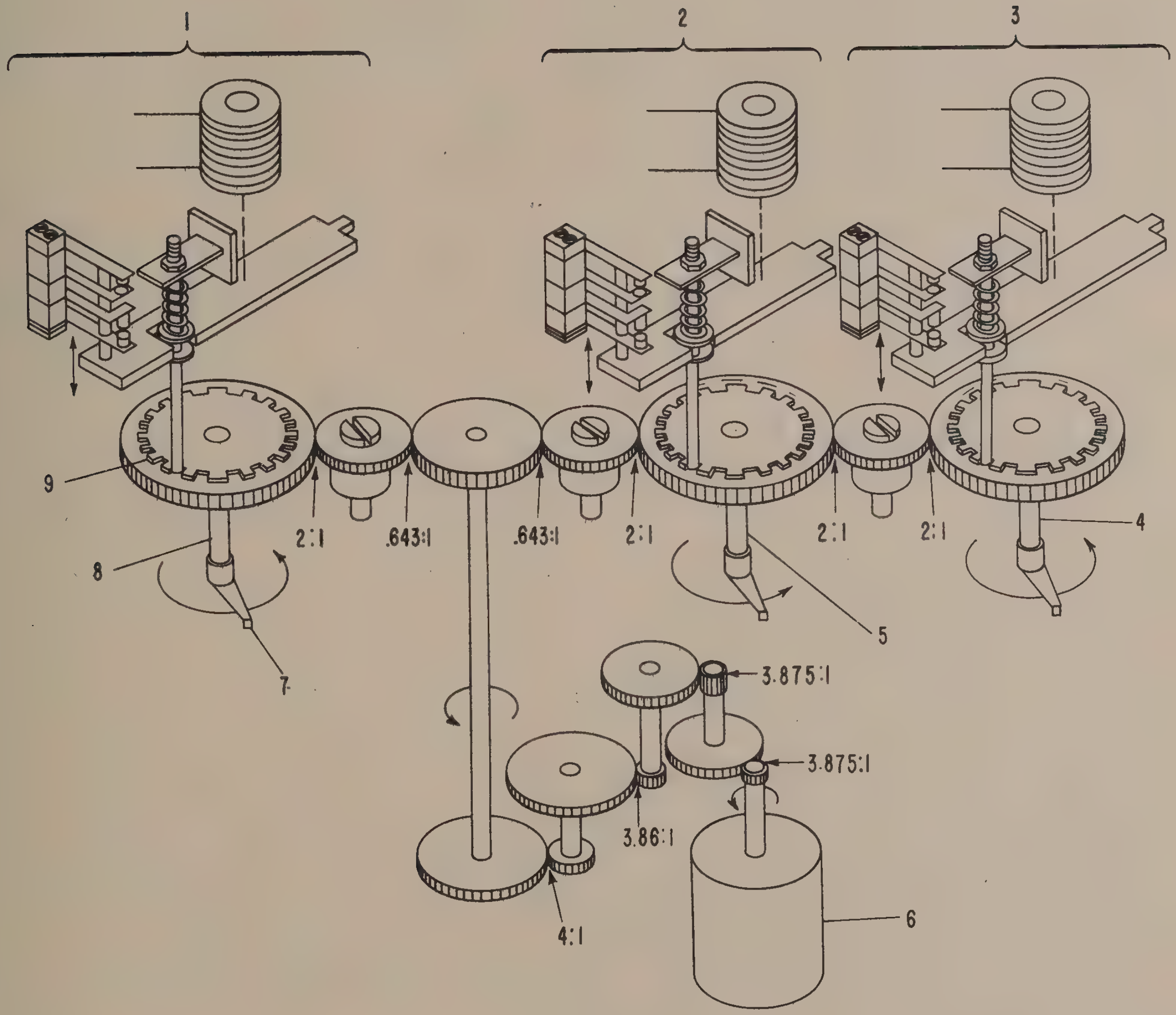
Tuning motor B201 controls the tuning capacitor of the vfo by means of three clutches--high-speed clutch K201, medium-speed clutch K202, and low-speed clutch K203. The range of the vfo is divided into six equal segments and it is the function of high-speed clutch K201 to drive B201 at high speed until the segment is reached in which the channel frequency lies. Medium-speed clutch K202 then takes over and B201 is driven at medium speed until the response curve of the fourth band-pass input circuit is reached. Low-speed clutch K203 then takes over and drives the tuning capacitor to the desired channel frequency.

Figure 2-10 illustrates the speed clutches circuit in simplified schematic diagram form. Switch S202 is a cam-operated switch mounted on the shaft of tuning capacitor C210. When the low end of capacitor travel is reached, section C of S202 grounds one end of high-speed clutch K201, thus energizing K201 and causing tuning motor B201, and consequently capacitor C210, to be driven at high speed toward the high-frequency end of the tuning range. Switch S202B then reverses B201, but the tuning remains in high speed due to the fact that K201 remains energized by means of a ground return supplied by segment selector switch section S403E.

The tuning remains in high speed until the sector is reached in which the preset frequency lies and switch S403E removes the ground return of K201. The de-energizing of K201 permits switch S201 to supply a ground return for medium-speed clutch K202 through normally energized clutch control relay K601. Relay K202 then drives the tuning at medium speed until the selected frequency is closely approached. When the output frequency of fourth mixer V407 is such that it can pass through the fourth band-pass input filter, the signal is rectified by clutch control rectifier V408B and is fed to clutch control amplifier V408A as negative d-c voltage. This negative d-c voltage causes plate current in V408A to decrease and relay K601 is de-energized, resulting in the ground return being shifted from medium-speed clutch K202 to low-speed clutch K203 and the tuning is put into low speed.

When searching for the desired channel frequency, the tuning capacitor travel is always from the high-to the low-frequency end. If the new channel is between the previous channel and the low-frequency end, tuning motor B201 drives to the new channel and stops. The tuning drive may start out in high, medium or low speed, depending upon how far removed the new channel lies from the old. If the new channel frequency is between previous frequency and the high-frequency end, tuning capacitor C210 will be driven to its high-frequency end before starting back again to search for the new channel frequency.

In the event that the vfo is not set up to the new channel frequency after traveling completely across its tuning range, it is returned to its high-frequency end at high speed by reversal of position of reversing switch S202,



1 Fourth digit selector clutch
2 Third digit selector clutch
3 Harmonic generator selector clutch
4 Harmonic generator switch shaft
5 Second oscillator switch shaft
6 Drive motor B401
7 Drive dog
8 Third and fourth oscillator switch shaft
9 Slipping clutch

Figure 2-11. Monitor Selector Switch Drive, Simplified Diagram

with control of tuning motor B201 entirely removed from the monitor circuits. When the vfo reaches the high-frequency end of its range, switch S202 turns control of B201 over to discriminator relays K602 and K603, and B201 is driven back towards its low-frequency end in search for the channel frequency.

To protect tuning motor B201 and the drive mechanism in case of repeated futile attempts to tune up, thermal time delay cutout K405 makes B201 inoperative after several trips across the band. When cutout K405 is activated, drive protection relay K604 is energized and B201 is stopped. To place B201 in operation again, reset switch S602 or S903 must be depressed or new channel selected.

f. MONITOR SELECTOR MECHANISM.--The monitor provides the means by which the vfo in the r-f head is tuned to a particular frequency. This is accomplished by controlling the vfo tuning capacitor through tuning motor B201 and its associated clutch circuits. When a channel is to be selected, three rotary selector switches must be positioned--harmonic generator selector switch S403, second and third crystal oscillator selector switch S404, and fourth oscillator selector switch S405.

Figure 2-11 is a simplified diagram of the monitor selector switch drive. The shaft of each rotary switch is driven through an individual slipping clutch whose load shaft lock and release mechanism is controlled by the selector circuits in the indicator and the monitor. When a new channel is selected at the indicator, the selector motor B401 is energized and the load shaft of each clutch is released and allowed to rotate until its respective selector switch has been driven around to the proper position. At the proper position, the clutch load or switch shaft is locked in place by a pawl which engages the detent plate. The driving gears continue to rotate, for B401 is de-energized only after all three switches have been driven to their proper positions. B401 runs in one direction only.

The friction clutch, the mechanical linkage between selector motor B401 and monitor selector switches S403, S404, and S405, is illustrated in exploded form in figure 2-12. The major mechanical elements of the friction clutch are the detent-clutch plate (15, figure 2-12) the driver gear (14), and a wear plate (13). The driver gear has three carbon blocks inlaid on each of its faces. The driver gear is assembled between the detent-clutch plate and the wear plate, the latter being firmly attached to the switch drive shaft (16). Friction between the two flat surfaces is maintained constantly by the tension spring (12) which is locked

1 Relay coil housing
2 Relay coil
3 Armature
4 Mounting screw
5 Armature spring
6 Mounting plate
7 Pawl retainer
8 Shaft support
9 Tapered pin
10 Drive dog
11 Lock nut
12 Tension spring
13 Wear plate
14 Driven gear
15 Detent-clutch plate
16 Switch drive shaft
17 Mounting screw
18 Dpst switch
19 Pawl
20 Pawl retainer
21 Pawl spring
22 Adjustment screw

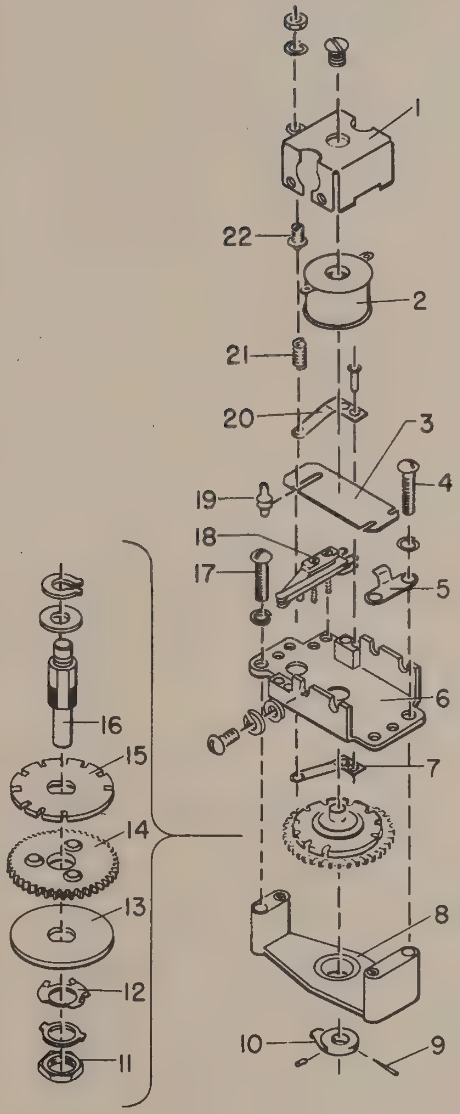


Figure 2-12. Friction Clutch, Exploded View

in place by a lock nut (11). When the relay coil (2) is energized, the armature (3) pulls the pawl (19) from a slot in the detent-clutch plate. D-c voltage is connected to the relay coil (2) through the normally-closed contacts of the dpst switch (18) until the armature (3) is almost closed. Just before the armature completely closes, the normally-closed contacts of the dpst switch open and insert a low-value resistor in series with the relay coil (2), thereby reducing the holding current of the relay coil. Simultaneously, the armature closes one set of contacts of the dpst switch, which energizes selector motor B401, and the associated selector switch shaft rotates until the clutch magnet coil becomes de-energized. When this occurs, the pawl drops into a slot on the detent clutch plate and locks the switch drive shaft into position. With the de-energizing of the clutch magnet coil, its armature opens and selector motor B401 is stopped.

g. R-F HEAD TUNING DRIVE MECHANISM.--The speed of tuning motor B201, is controlled by means of three clutches--high-speed clutch K201, a medium-speed clutch K202, and low-speed clutch K203. The main shaft, driven by tuning motor B201, tunes vfo capacitor C210A, frequency tripler capacitor C210B, frequency doubler capacitor C210C, segment selector switch S203, and capacitors in the receiver cavity.

When the r-f head is tuned to a new channel frequency or corrects a frequency error, the appropriate clutch and the tuning motor are energized to tune the r-f head to the correct operating frequency. When the new channel frequency is an appreciable amount away from the previous channel, high-speed clutch K201 is energized and tuning motor B201 is driven towards the low-frequency end of the tuning range. When the segment is reached in which the new frequency lies, medium-speed clutch K202 is energized, the high-speed clutch is de-energized, and B201 is slowed down to about a tenth of its former speed. As the desired frequency is closely approached, medium-speed relay K202 is de-energized, low-speed relay K203 is energized and tuning motor B201 is slowed down until the reactance tube V201 takes over control of the vfo.

Cam-operated switch S202 reverses tuning motor B201 when the high or low end of vfo capacitor C210A is reached. Switch S202C actuates high-speed clutch K202 and drives B201 at high speed towards the high-frequency end of the tuning range when the low end of tuning capacitor C210A is reached.

High-speed clutch K201 is equipped with a take-up spring to cushion the shock that occurs at the instant of engagement between the driven high-speed clutch plate and the main drive shaft, which may be stationary or turning slowly at the time of engagement.

For test and alignment of the r-f head, the main shaft may be turned manually by means of a screwdriver adjustment. An end stop is provided to prevent the tuning capacitors from traveling past the end of their normal travel.

SECTION 3

INSTALLATION

1. UNPACKING.

The direction finder set is packed in wooden boxes and items contained in individual boxes are as follows:

a. Antenna AS-514/URD-4

b. Mast AB-198/U

c. Receiver Group OA-485/URD-4

d. Azimuth Indicator IP-93/URD-4

e. Patch cables, Radio Test Set TS-777/URD-4, hardware bag, instruction books.

2. INSTALLATION.

a. LOCATION OF UNITS.--The direction finder set is designed to be installed at air stations or on shipboard where a favorable antenna site may be far removed from the actual operating position, thus requiring separation of antenna, receiver, and indicator. Interconnecting cables permit the antenna to be located at a maximum distance of 150 feet from the receiver, and the receiver, in turn, to be located at a maximum distance of 1000 feet from the indicator.

Locate the antenna high enough to clear obstructions in its immediate vicinity in order to minimize signal reflection and unequal pickup.

The receiver group and indicator units require a 115-volt, 60-cycle, single-phase, a-c source and must be located accordingly.

b. INSTALLATION OF UNITS.--Reference to figure 1-1 may aid installation by indicating relative sizes of units.

(1) ANTENNA AS-514/URD-4.

(a) Mast AB-198/U consists of two identical ten-foot sections of mast, designed to support the antenna. Assemble the mast sections and fasten them into place with hardware contained in a bag attached to the mast. Figure 3-1 illustrates the mounting hole arrangement for the mast base and outline dimension information for the mast. Use the mast in ground installations only; provisions for shipboard mounting will be made by installing activity.

(b) Hoist the antenna (see figure 3-2 for antenna dimensions) into position atop the mast by means of the pad eye on the antenna radome.

(c) For a ground installation, have the arrow upon the antenna mounting pointed in the direction of true north. For a shipboard installation, have the arrow pointing to the bow of the ship and in line with the center of the ship.

(d) Bolt the antenna loosely to the mast or platform provided.

(2) RECEIVER GROUP OA-485/URD-4.

(a) Figure 3-3 is an outline drawing of the receiver group. Position the receiver group to provide for ready withdrawal of receiver and power supply from the cabinet for tube replacement and unit servicing.

(b) Allow a minimum of five inches of clearance for sides and top of the receiver group.

(c) Bolt the two shockmounts on the rear of the receiver group cabinet to the wall and bolt the four shockmounts on the bottom of the cabinet to the desired mounting.

(3) AZIMUTH INDICATOR IP-93/URD-4.

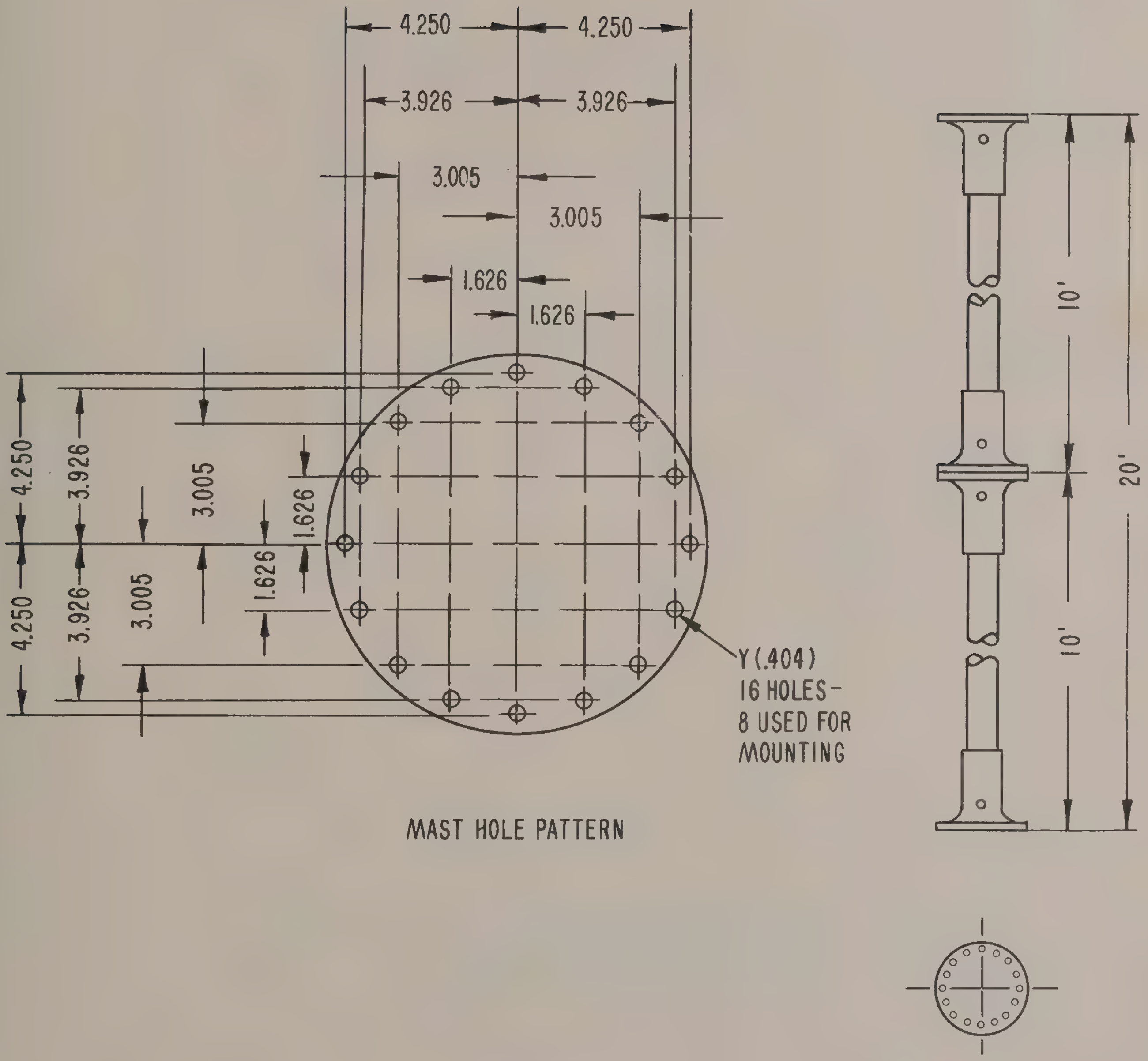
(a) Figure 3-4 is an outline drawing of the indicator. Position the indicator to ensure ready withdrawal of the indicator from the cabinet for tube replacement and unit servicing. The pattern appearing on the indicator's cathode-ray tube will be more discernible if the indicator is not placed in direct light.

(b) Allow a minimum of five inches of clearance for top and side of cabinet.

(c) Bolt the four shockmounts on the bottom of the cabinet to the desired mounting.

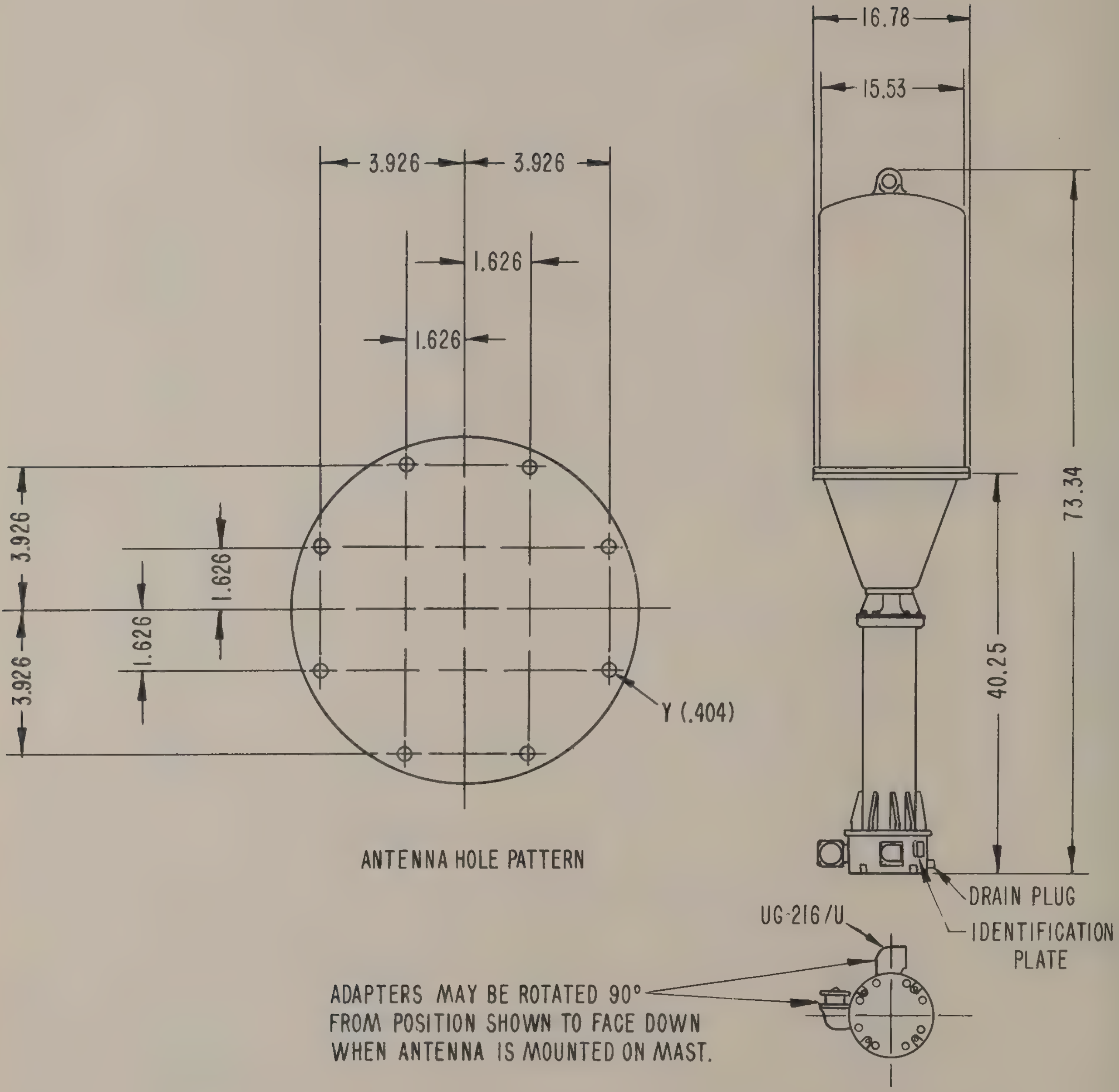
c. CABLING BETWEEN UNITS.

(1) Interconnecting cables for the units are not supplied, necessitating installation of connectors on Government-furnished cables. Figure 3-5 provides information for connecting the UG-154/U type of connector to cable W1201. Figure 3-6 provides information for connecting the female portion of



MAST HOLE PATTERN

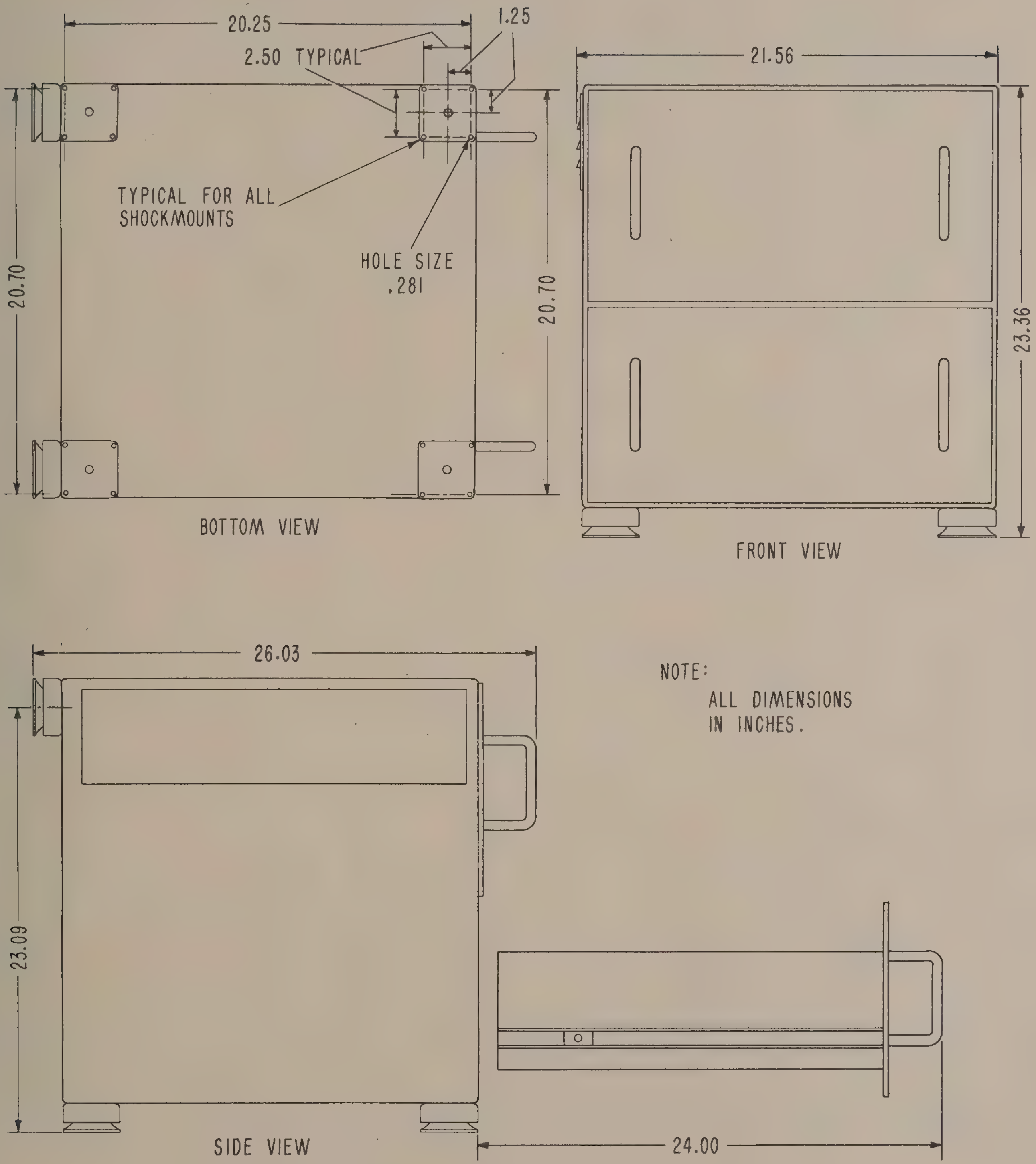
Figure 3-1. Mast AB-198/U, Outline Drawing and Mounting Hole Arrangement



ANTENNA HOLE PATTERN

ADAPTERS MAY BE ROTATED 90° FROM POSITION SHOWN TO FACE DOWN WHEN ANTENNA IS MOUNTED ON MAST.

Figure 3-2. Antenna AS-514/URD-4, Outline Drawing



NOTE:
ALL DIMENSIONS IN INCHES.

Figure 3-3. Receiver Group OA-485/URD-4, Outline Drawing

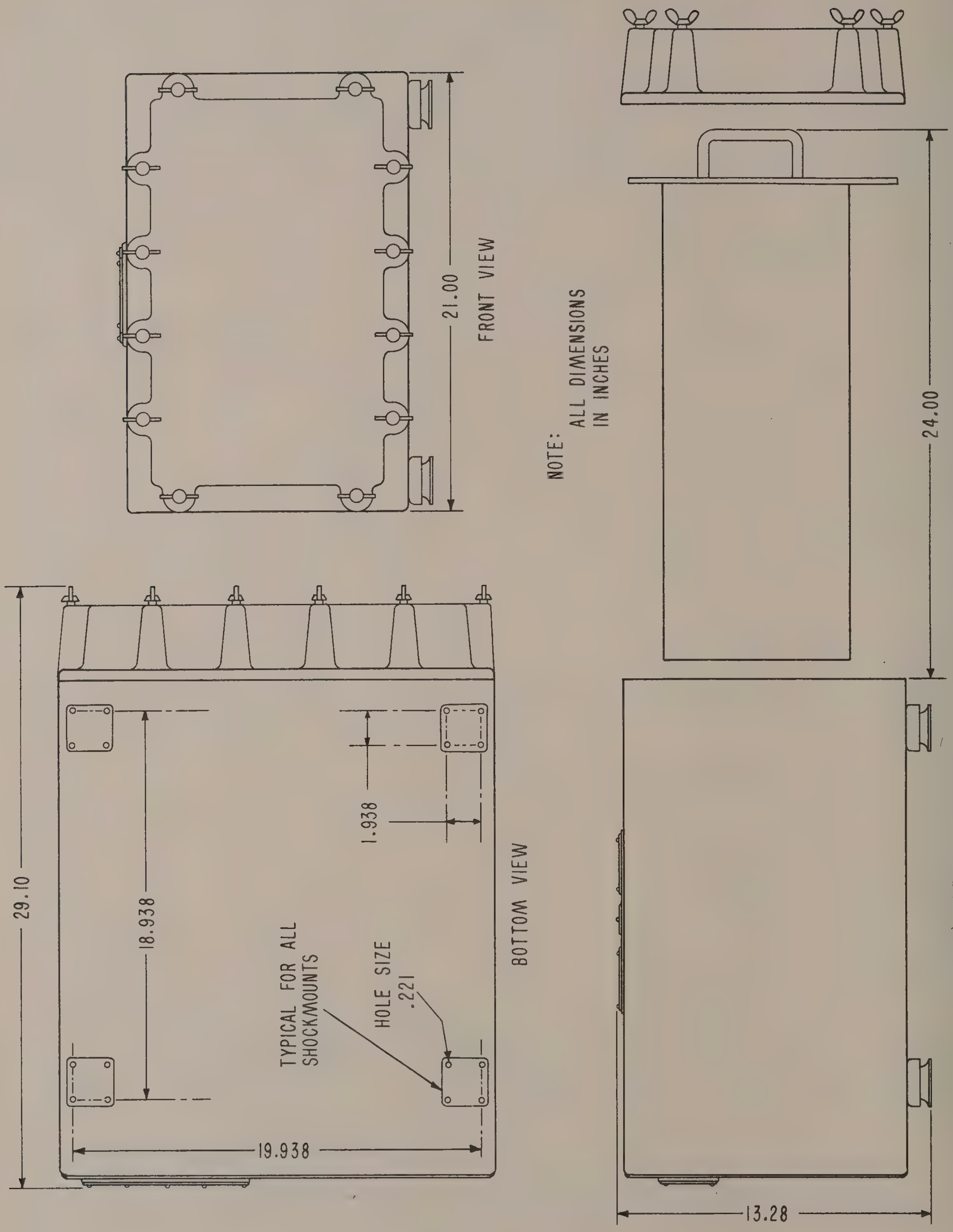


Figure 3-4. Azimuth Indicator IP-93/URD-4, Outline Drawing

connector plug P103 to cable W1202. The remaining cables are attached to the interior of the units by means of soldering lugs supplied. Transparent tubing is also supplied and is to be slipped over cables between units for cable protection.

(2) Connect cables between units, utilizing table 3-1, a cable list, and figure 7-53, an interconnecting cable diagram.

d. PRIMARY POWER DISTRIBUTION.—Figure 7-59 is a primary power distribution diagram illustrating schematically all switches, relays, interlocks, fuses, and transformer primaries.

3. INITIAL ADJUSTMENTS.

a. CABLE LENGTH COMPENSATION.—Cable W1204 may be any length up to 1000 feet. Due to the sensitivity of the channel-setting bridge circuit, the resistance of the cable must be compensated for, since it becomes part of the bridge circuit. Compensation for cable length is as follows:

(1) On indicator, set fourth digit selector switch (13, figure 3-8) to zero. Throw POWER switch (16) to ON.

(2) Plug eleven-pin probe (4, figure 1-5) of Radio Test Set TS-777/URD-4 into test jack J402 on monitor of receiver.

(3) Throw meter selector switch (6) of test set to position 1 or 2 depending on which position gives a positive meter indication.

(4) Adjust the cable length compensation control (figure 3-7) on the right for zero on the test set meter. Press sensitivity switch (3, figure 1-5) on test set and readjust control for zero again.

(5) On the indicator, set fourth digit selector switch to 9.

(6) Adjust the cable length compensation control on the left for zero on test set meter. Press sensitivity switch on test set and readjust control for zero again.

(7) Switch fourth digit selector switch rapidly between numbers 0 and 9 and check to see if test meter remains at zero.

(A) Cut end of cable even. Slide armor clamp and washer No. 3 over armor.

(B) Cut off armor 2-3/4 inches from end--don't cut vinyl jacket. Remove vinyl jacket 2-3/8 inches--don't nick braid. Remove braid 2-1/4 inches--don't cut dielectric.

(C) Push armor back approximately 12-3/8 inches from end. Slide spanner nut No. 2, washer No. 2 gasket and spanner nut No. 1 over vinyl jacket. Carefully slide washer No. 1 over copper braid as shown.

(D) Fan out copper braid radially. Trim any loose or ragged edges. All metal particles must be cleaned of dielectric. Slide clamp over dielectric (prongs toward connector as shown) and press it against copper braid. Apply Amphenol 307 Silicone Compound to clamp surfaces.

(E) Insert formed end of cable into plug body. With a spanner wrench, screw spanner nut No. 1 very tight against washer No. 1. This locks the copper braid and forces the clamp into the dielectric. It is necessary to exert sufficient pressure to insure clamp is pressed into dielectric and is flattened to provide good contact with braid. Apply a thin film of Amphenol 307 Silicone Compound to the surfaces of the gasket. This provides for better sealing. Slide washer No. 2 against gasket. Screw spanner nut No. 2 tight against washer No. 2. See cross section for relative position of parts.

(F) Flare out armor braid end 1/2 inch (radially).

(G) Push armor into body by straightening bulge. Push washer No. 3 against armor. Screw up armor nut tight against washer No. 3. With sharp knife, cut dielectric flush with forward edge of coupling ring. Do not nick center conductor. Pry off cut dielectric. Cut off center conductor 1/2 inch from forward edge of coupling ring. File end of center conductor round. Clean off all filings. Apply small amount of Amphenol 307 Silicone Compound to end of dielectric just before mating this plug into an adaptor or receptacle.

Instructions for figure 3-5.

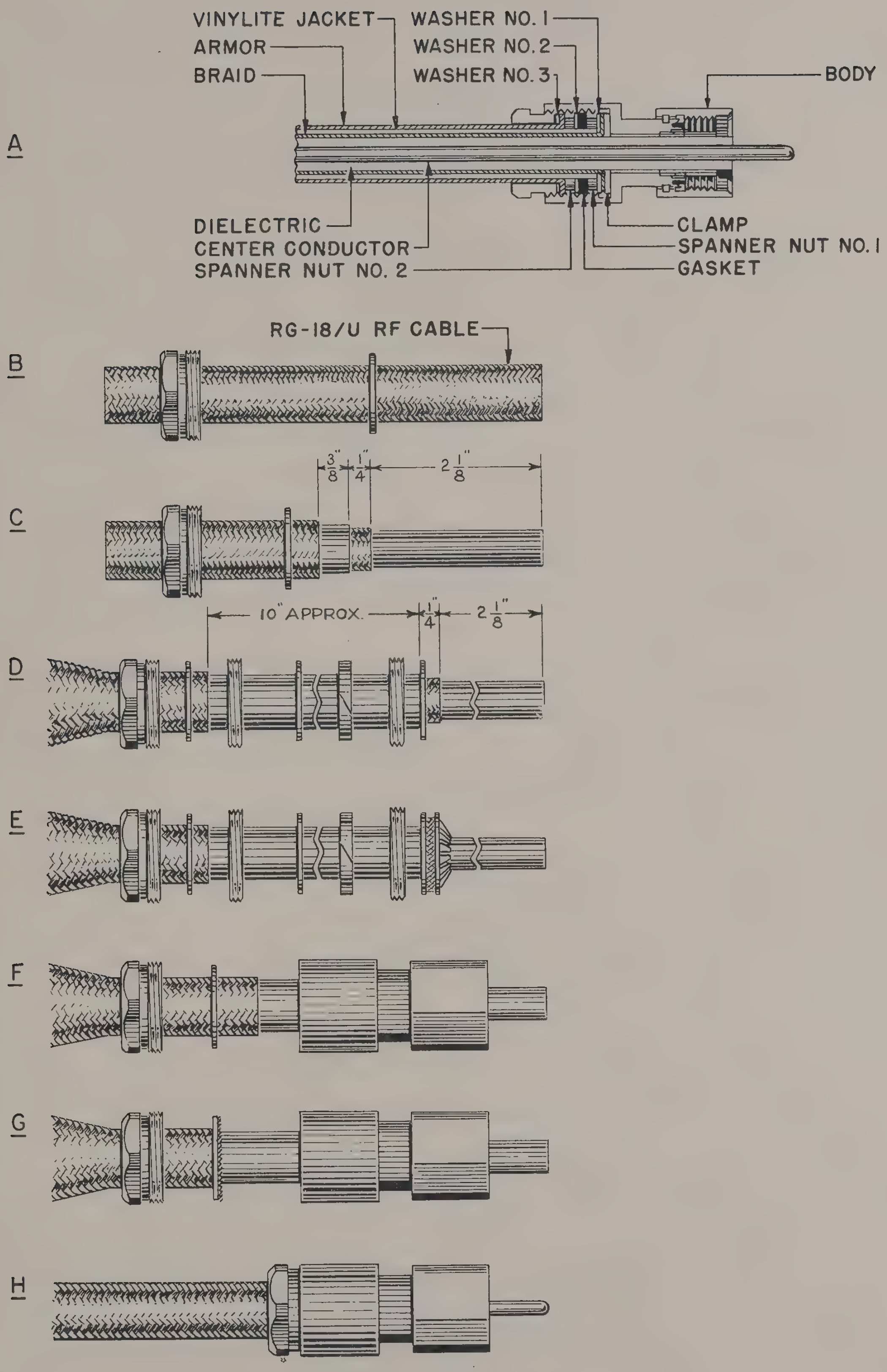


Figure 3-5. Cable W1201, Installation of Connectors

(A) Cut armor three inches from cable end.

(B) Slip nut (1) and clamp (2) atop the armor. Push armor back approximately six inches. Slip clamp (3), insert (4), clamp insert (5) and body (6) on cable.

(C) Cut cable insulation back 1-1/2 inch to expose the six pair of leads. Cut colored cloth and braid back 1-1/4 inch on each pair of leads. With sharp, pointed instrument, cut hole in braid and pull pair of leads through hole. Solder each braid to a tab on solder ring (7).

(D) Slip rubber gasket (8) and sealing ring (9) over cable. Cut insulation on each lead 5/16 inch back, and slip small piece of insulating tubing over lead. With figure 7-53, interconnecting and cabling diagram, as reference, solder leads to plug (11). Slip insulating tube over each terminal.

(E) Pull cable back in order to seat solder ring in clamp insert. Push rubber gasket and sealing ring in place above the solder ring.

(F) Push clamp insert (5) and insert (4) into body. Place armor end between clamps (3 and 2) and trim loose or ragged edges of armor.

(G) Push nut (1) into body (6) and tighten nut. Place cap (10) over plug until cable is put to use.

Instructions for Figure 3-6.

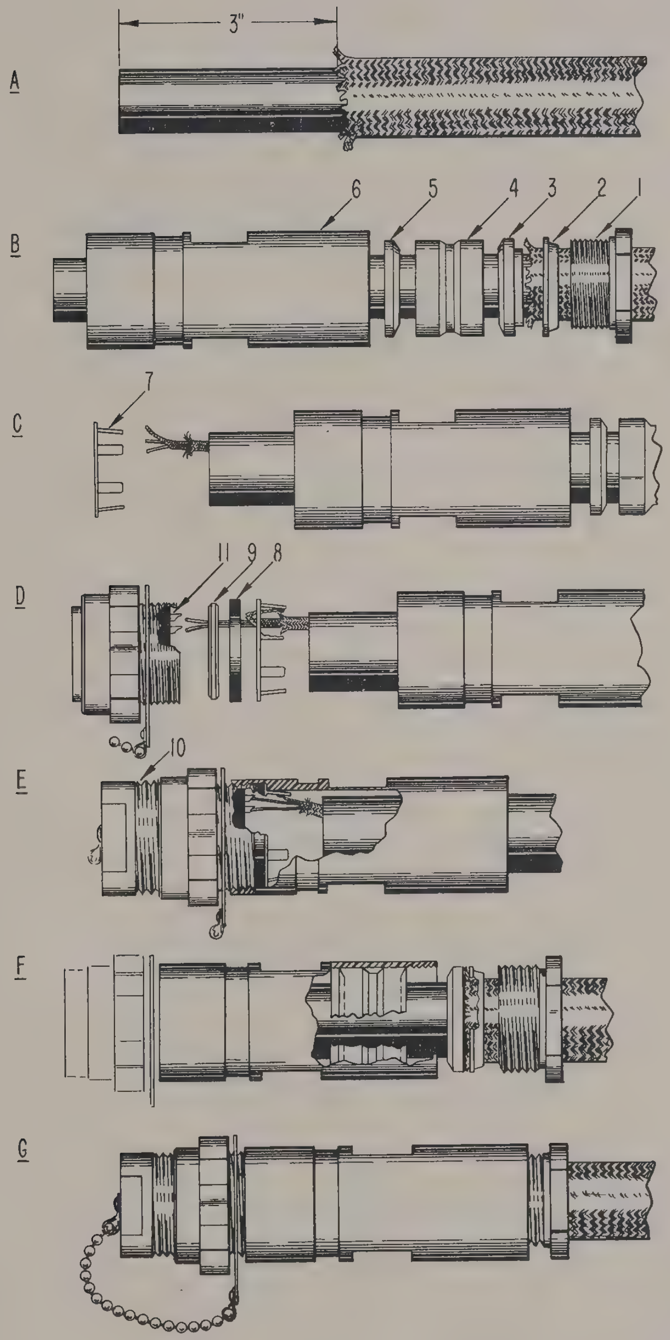


Figure 3-6. Cable W1202, Installation of Connector

TABLE 3-1. INTERCONNECTING CABLES

SYMBOL	NAVY TYPE NO.	NO. ACTIVE COND.	COLOR	FROM	JACK PLUG BOARD	PIN OR TER.	TO	JACK PLUG BOARD	PIN OR TER.	FUNCTION
W1201	RG-18/U	1	—	Ant.	J101B P101B	—	Rec. cab.	J801A J801B	—	Signal
W1202	TTRSA-6	10	BK { W BK	Ant.	J103	H G	Rec. cab.	TB801	57 58 }	Sense power
			W { W BK		P103	F E			55 56 }	Motor power
			R { W BK			C D			35 36 }	Calibrate
			G { W BK			B A			39 40 }	Alternator vertical
			O { W BK							Spare pair
			B { W BK			I J			37 38 }	Alternator horizontal
W1203	DSGA-4	2	BK W	Rec. cab.	TB802	2 1	Pri. power	—	—	115V, 1Ø, 60~ input
W1204	TTHFWA-20	34	BK W	Rec. cab.	TB801	24 25	Ind. cab.	TB1101	24 25 }	OFF-ON control
			BK R			15 16			15 16	3rd digit control 4th digit control
			BK G			19 20			19 20	Bridge - Bridge +
			BK O			19 20			19 20	Bridge - Bridge +
			BK B			21 1			21 1	Ground RF GAIN control
			BK BN			7 8			7 8 }	Amber indicator lamp

TABLE 3-1. INTERCONNECTING CABLES (Continued)

SYMBOL	NAVY TYPE NO.	NO. ACTIVE COND.	COLOR	FROM	JACK PLUG BOARD	PIN OR TER.	TO	JACK PLUG BOARD	PIN OR TER.	FUNCTION
W1204 (Cont'd)			BK			19			19	Bridge -
			GY			20			20	Bridge +
			BK			11			11	Reset
			Y			12			12	Squelch control
			BK			38			38	Alternator horizontal
			PR			37			37	
			BK							Spare pair
			T							
			BK			36			36	Calibrate
			PK			35			35	
			W			22			22	Audio
			R			23			23	
			W			18			18	Video
			G			17			17	
			W							Spare pair
			O							
			W			9			9	Green indicator lamp
			B			10			10	
			W			13			13	1st digit control
			BN			14			14	2nd digit control
			W			26			26	Control return
			GY			6			6	Red indicator lamp
			W			28			28	Motor control
			Y			27			27	Sense control
			W							Spare pair
			PR							
			W			40			40	Alternator vertical
			T			39			39	
W1205	DSGA-4	2	BK	Ind. cab.	TB1102	2	Pri. power	--	--	115V, 1Ø, 60~ input
			W			1				

b. PATTERN CALIBRATION.

NOTE

> The following controls are located behind the frequency log chart mounted on the indicator panel: CALibration GAIN, CALibration PHASE, ALTernator PHASE, HORizontal GAIN, HORizontal CENTer, VERTical GAIN, and VERTical CENTer. Remove the frequency chart to gain access to these controls.

Pattern calibration is essential to accuracy in direction finding. While pattern calibration is necessary initially, pattern calibration should also be carried out during operational periods when inspection of the pattern indicates inaccuracies. The procedure is as follows:

(1) Turn LOCAL-REMOTE switch (figure 3-7) on the receiver to REMOTE.

(2) Turn LOCAL-OFF-REMOTE switch (figure 3-7) on the power supply to REMOTE.

(3) Throw POWER switch (16, figure 3-8) to ON. Allow three minutes for a warm-up period.

(4) Turn RF GAIN and AF GAIN controls (19 and 23) to their minimum gain positions.

(5) Turn BRILLIANCE control (25) clockwise to make spot appear on cathode-ray tube.

(6) Turn MOTOR switch (1) to ON to cause antenna rotation.

(7) With CALIBRATION-SENSE switch (18) in its center position, a circular pattern should appear on the cathode-ray tube. Figure 3-9 illustrates a typical circular pattern.

(8) Sharpen the outline of the circle by manipulation of ASTIGmatism control (26, figure 3-8) and FOCUS control (27). The ASTIGmatism control provides means of obtaining equal amounts of focusing around the circle.

(9) Throw CALIBRATE-SENSE switch (18) to CALIBRATE. Calibration pattern containing 36 lobes will appear. Figure 3-10 illustrates a typical calibration pattern.

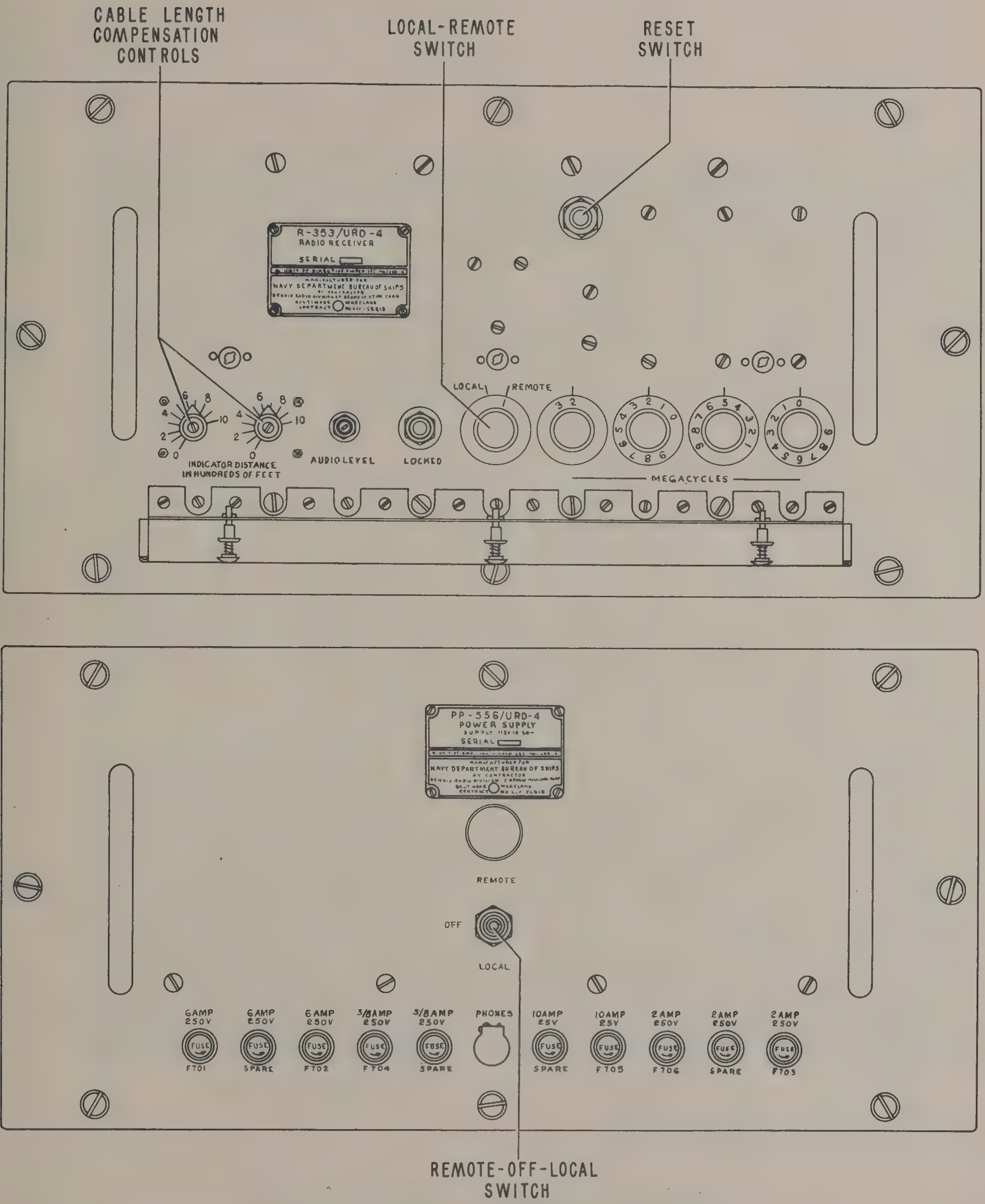
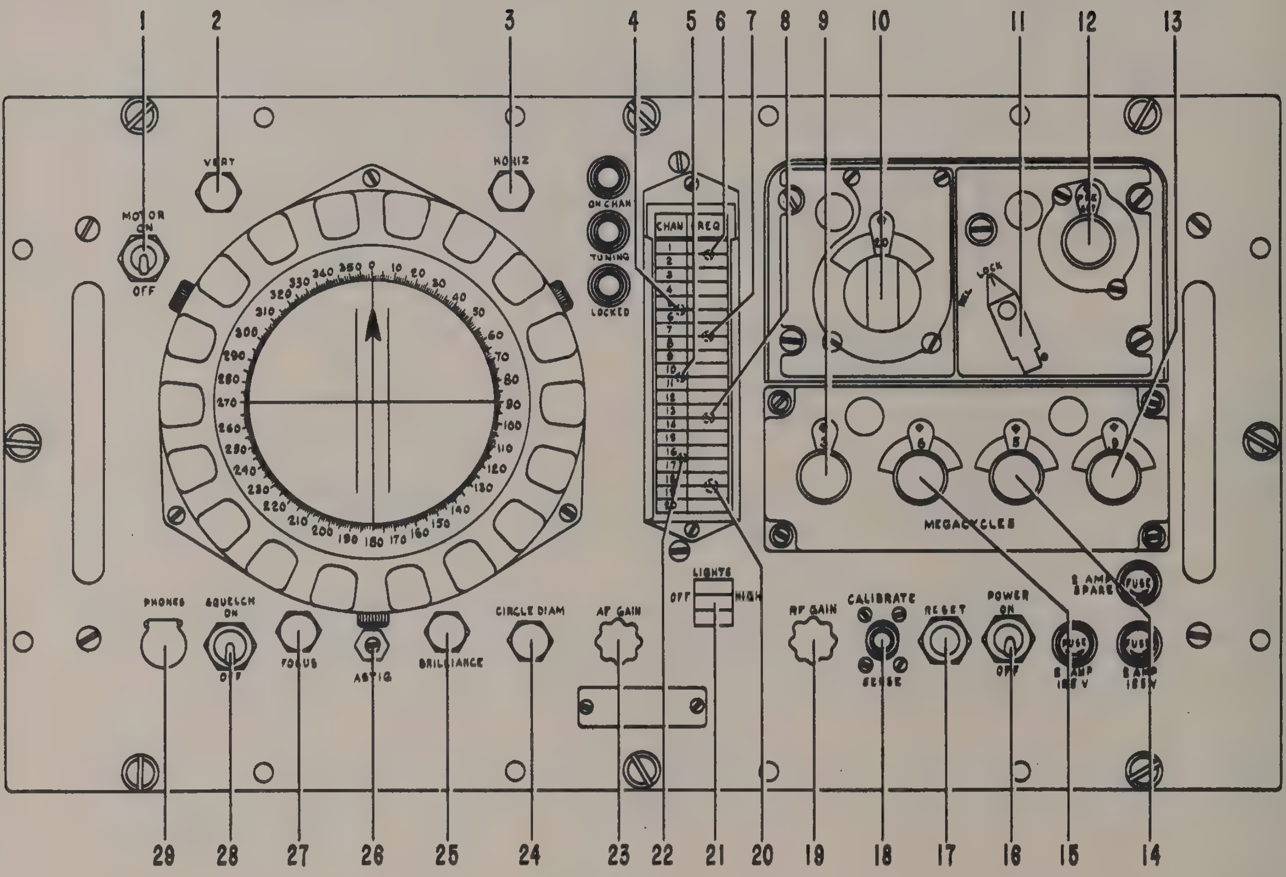


Figure 3-7. Receiver Group OA-485/URD-4, Controls for Initial Adjustments



1 MOTOR switch
2 VERTical control
3 HORIZontal control
4 CALibration PHASE control
5 HORizontal GAIN control
6 CALibration GAIN control
7 ALTernator PHASE control
8 HORizontal CENTer control
9 First digit selector switch
10 Channel selector switch
11 RELease LOCK switch
12 MANual PRESET switch
13 Fourth digit selector switch
14 Third digit selector switch
15 Second digit selector switch
16 POWER switch
17 RESET switch
18 CALIBRATE-SENSE switch
19 RF GAIN switch
20 VERTical CENTer control
21 LIGHTS switch
22 VERTical GAIN control
23 AF GAIN control
24 CIRCLE DIAMeter control
25 BRILLIANCE control
26 ASTIGmatism control
27 FOCUS control
28 SQUELCH switch
29 PHONES jack

Figure 3-8. Azimuth Indicator IP-93/URD-4
Controls for Initial Adjustments

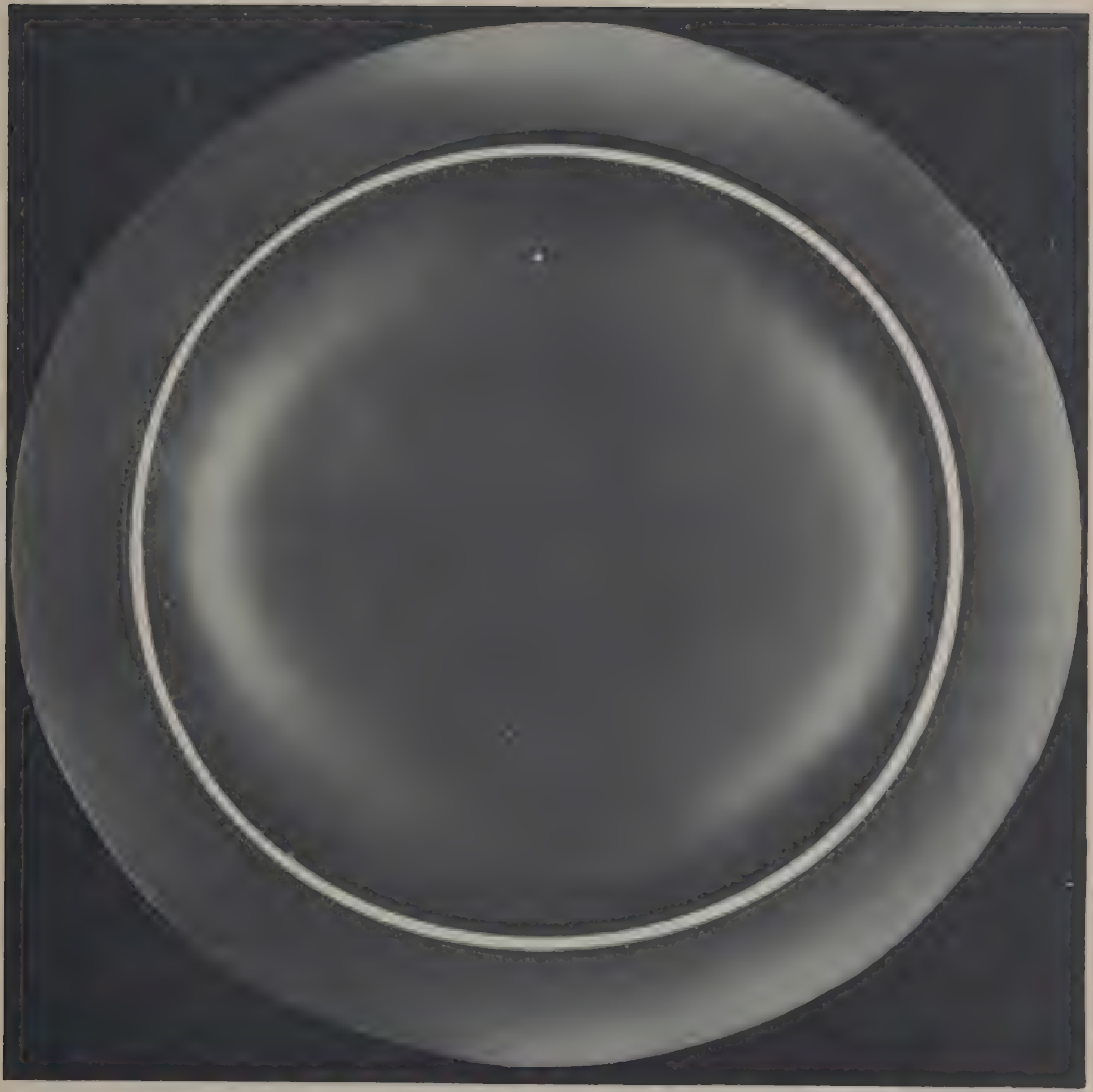


Figure 3-9. Circular Pattern

(10) Turn CALibration GAIN control (6, figure 3-8) to cause the spokes of the pattern to converge in a spot near the center of the cathode-ray tube. Center the spot on the intersecting lines on the cursor screen by means of VERTical CENTer control (20) and HORizontal CENTer control (8).

(11) Throw CALIBRATE-SENSE switch (18) to center (normal) operating position to obtain circular pattern again. Hold RESET switch (17) in and adjust HORizontal GAIN control (5) and VERTical GAIN control (22) until periphery of the circular pattern just touches the azimuth scale of the alidade operating ring (19, figure 1-4). Center the circular pattern by means of VERTical control (2, figure 3-8) and HORIZontal control (3).

(12) Release RESET switch (17). Adjust CIRCLE DIAMeter control (24) to cause the periphery of the circular pattern again to just touch the azimuth scale of the alidade operating ring. Figure 3-9 illustrates a properly adjusted circular pattern.

(13) Throw CALIBRATE-SENSE switch (18) to CALIBRATE. Adjust CALibration GAIN control (6) until the calibration pattern lobes touch the edge of the azimuth scale.

(14) Rotate the calibration pattern with CALibration PHASE control (4) until one lobe tip lines up with 90 degrees on the azimuth scale and another lobe tip lines up with 270 degrees. Exact alignment can be accomplished with the aid of VERTical control (2).

(15) Rotate the calibration pattern with the ALTernator PHASE control (7) until one lobe tip lines up with zero degrees on the azimuth scale and another lobe tip lines up with 180 degrees. Exact alignment can be accomplished with the aid of HORIZontal control (3). Figure 3-10 illustrates a properly adjusted calibration pattern.

(16) Throw POWER switch (16, figure 3-8) to OFF to turn off equipment.

c. ANTENNA AS-514/URD-4 ORIENTATION.

NOTE

The indicator must be calibrated before any attempt is made at antenna orientation. Refer to Section 3, paragraph 3b for calibration details.

Antenna orientation is necessary in order to have the arrow on the antenna housing coincide electrically with zero degrees of the indicator's azimuth scale. To accomplish this orientation, a target transmitter is required to supply a signal. Any signal generator capable of delivering 20,000 microvolts of r-f energy to an antenna, over a frequency range of 200 - 400 megacycles, will serve as a target transmitter. The following is a list of signal generators which may be used:

SG-38/URM-15
Navy Model LX
Hewlett-Packard Model 608A
Measurements Corporation Model 80

To radiate the energy from the signal generator, a line-balanced antenna is required. Fabrication details for such an antenna are illustrated in figure 3-11.

To orient the antenna, proceed as follows:

(1) Place the signal generator at a minimum distance of 50 feet from Antenna AS-514/URD-4.

(2) In a land installation, where zero on the indicator's azimuth scale is to be north, position the target antenna due north of the antenna by means of a surveyor's transit or sighting compass. On shipboard, position the target antenna in the direction of the ship's bow.

(3) Set up the target antenna in a vertical position on a non-metallic support about six feet above ground with the coaxial cable running straight back from the elements for approximately six feet.

(4) Throw POWER switch (16, figure 3-8) to ON.

(5) Throw MOTOR switch (1) to ON.

(6) Set MANual PRESET switch (12) to MANual, and set up the equipment to receive 300.0 megacycles by setting up MEGACYCLES digit selector switches (9, 13, 14, and 15) to 300.0.

(7) Throw CALIBRATE-SENSE switch (18) to center (normal) operating position.

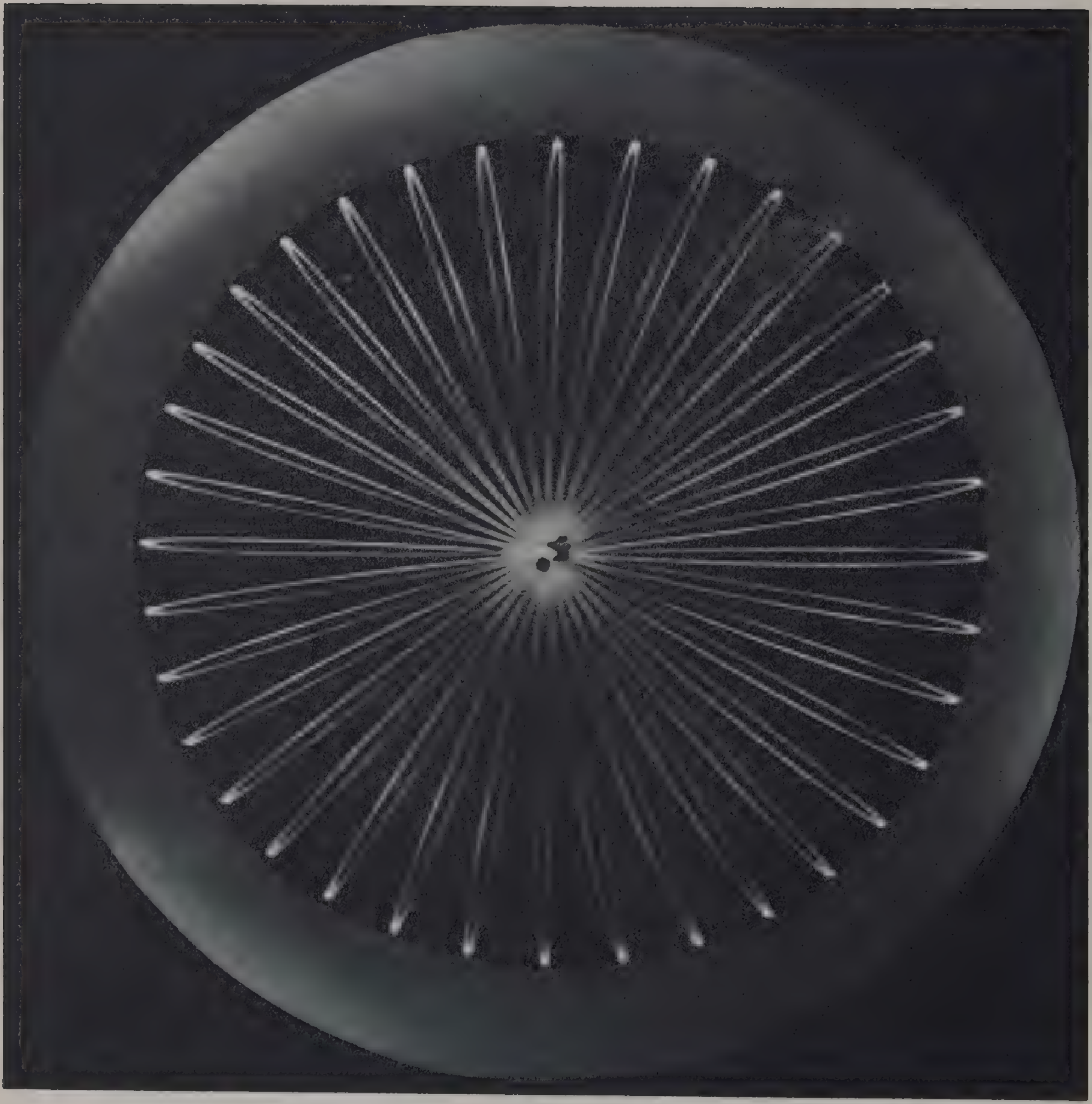


Figure 3-10. Calibration Pattern

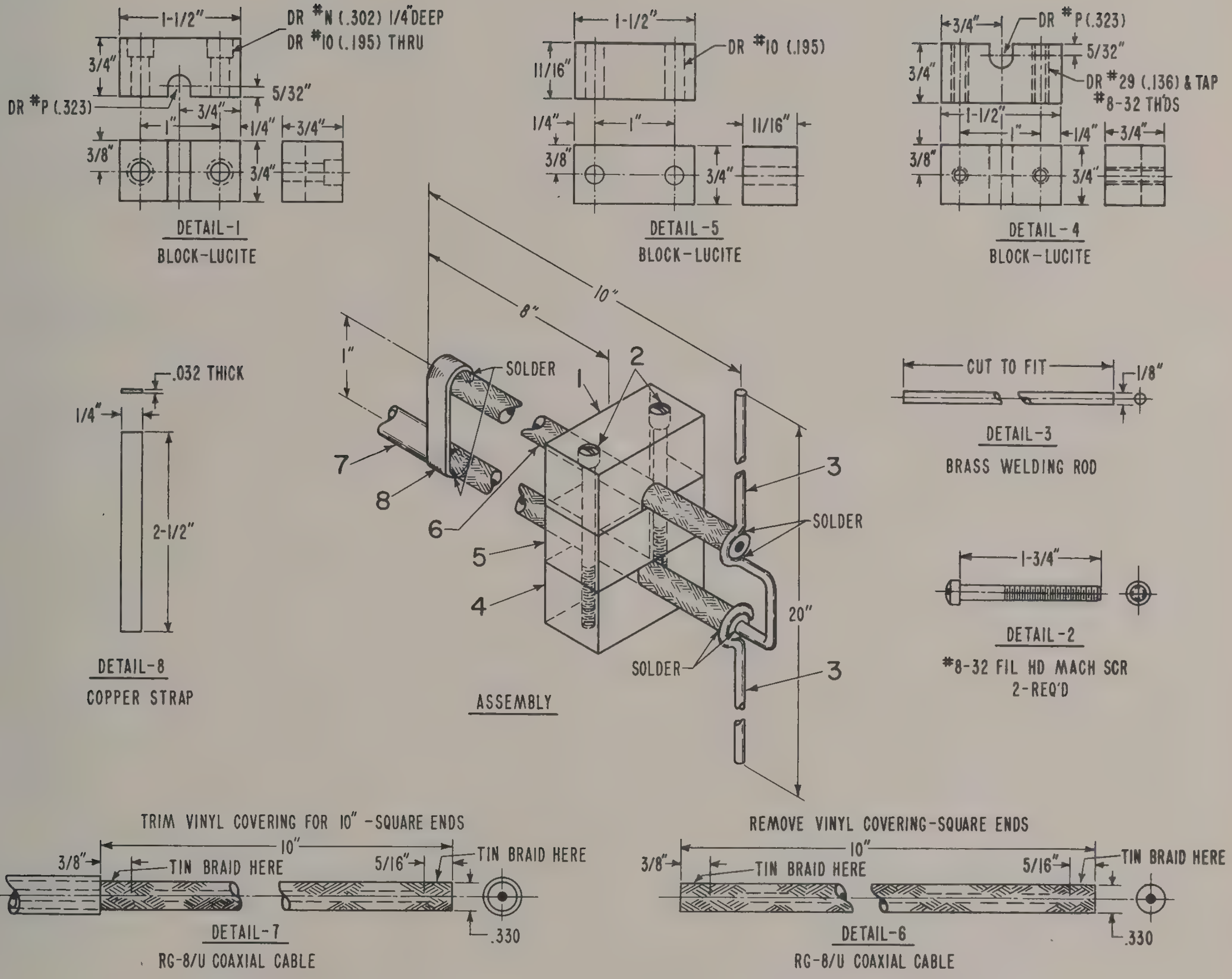


Figure 3-11. Target Antenna, Construction Details

(8) Turn on the signal generator and set it at 300.0 megacycles. Adjust signal generator output level to 20,000 microvolts. Modulate the signal generator output in order to produce an audio signal that can be detected by the direction finder set.

(9) Plug a headset of 200-ohm impedance into PHONES jack (29). To ascertain that the signal generator's signal is the one being received, turn the signal generator's modulation switch on and off rapidly.

(10) With the signal generator in operation, the cathode-ray tube of the indicator should display a propeller-shaped pattern. Position the antenna to make the tip of the propeller fall at zero degrees on the azimuth scale. Tighten the antenna into place on the mast.

d. AZIMUTH INDICATOR IP-93/URD-4, DISTORTION AND SENSITIVITY ADJUSTMENTS. If, after pattern calibration, distortion exists in the circular pattern, adjust horizontal and vertical distortion controls (figure 3-12) to alleviate distortion. Distortion is indicated by flats in the periphery of the circular pattern.

Tune in a strong bearing signal to produce a propeller-shaped pattern. Adjust the indicator sensitivity control (figure 3-12) to a level which makes the widest part of the propeller pattern lie just within the parallel lines of the cursor screen.

e. SITE-ERROR TESTING.--Objects in the vicinity of the antenna will often cause re-radiation of a bearing signal, and, in turn, cause the propeller-shaped pattern to be distorted. Re-radiated signals effect the pattern by rounding or blunting the propeller tips and causing the pattern to shrink towards the center of the cathode-ray tube. Locating the antenna where re-radiation of signals does not occur may be an impossibility; therefore, check the pattern in the following manner in order to familiarize operating personnel with the existence of bearing inaccuracies resulting from such re-radiation.

(1) With the signal generator and direction finder set operating as antenna orientation (described in Section 3, paragraph 3c), shift the frequency of the signal generator six megacycles away from either side of 300.0 megacycles.

Shift the frequency of the signal generator one megacycle at a time and tune the direction finder set each time to receive the new frequency.

(2) Changes in the propeller-shaped pattern with frequency variation or movement of the pattern from its original position indicate site errors.

(3) Move signal generator and target antenna 90 degrees or 270 degrees and repeat step (1).

(4) Note and record the bearings upon which site errors may be expected.

f. REMOTE OPERATION.--Set up the equipment for remote operation (from the indicator) in the following manner:

(1) Set LOCAL-REMOTE switch (figure 3-7) to REMOTE.

(2) Set LOCAL-OFF-REMOTE switch (figure 3-7) to REMOTE.

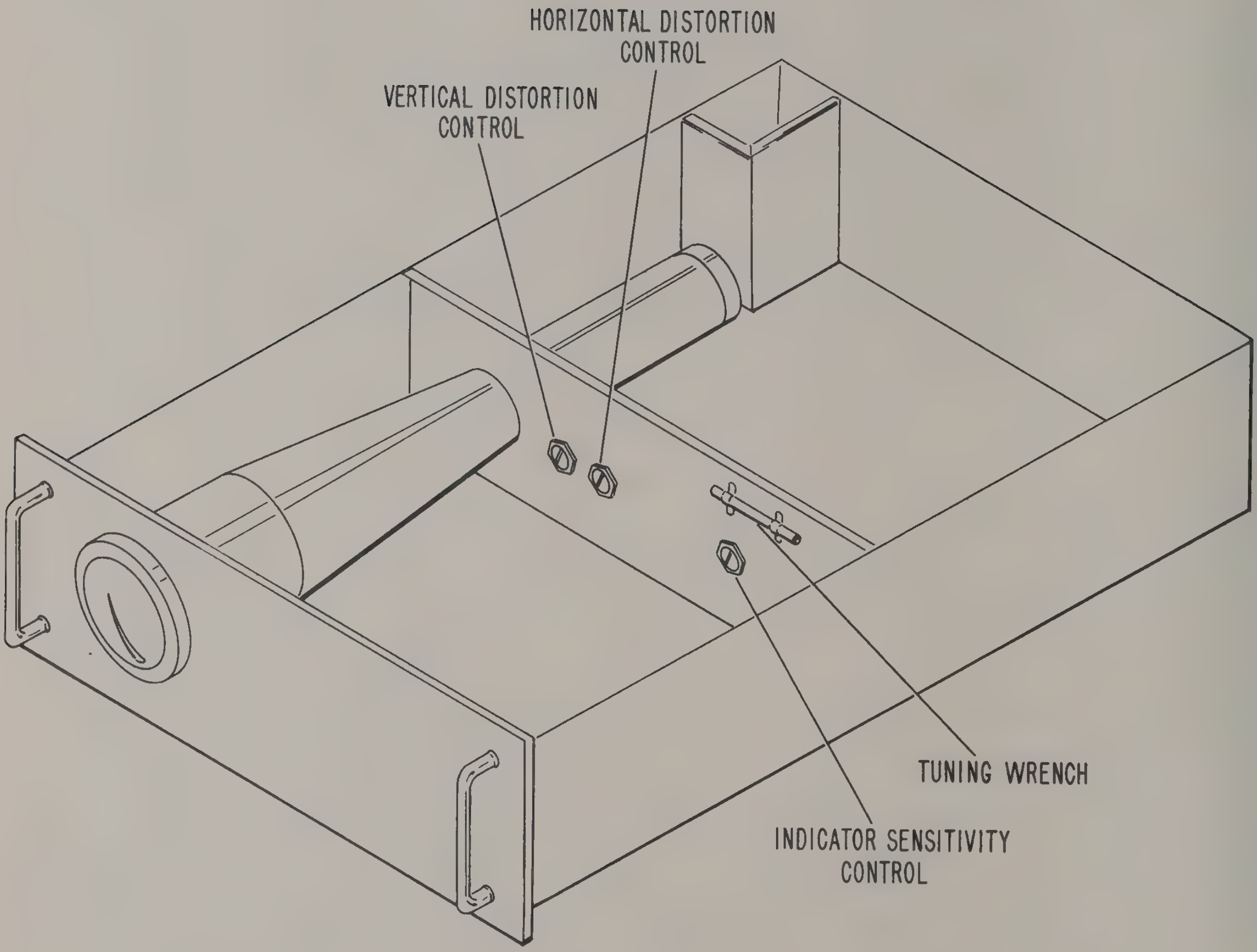

HORIZONTAL DISTORTION CONTROL
VERTICAL DISTORTION CONTROL
TUNING WRENCH
INDICATOR SENSITIVITY CONTROL

Figure 3-12. Azimuth Indicator IP-93/URD-4, Controls for Distortion and Sensitivity Adjustments

SECTION 4

OPERATION

1. INTRODUCTION.

Direction Finder Set AN/URD-4 functions as a means of determining rapidly the direction of fixed and mobile sources of radio transmissions. The equipment indicates the bearing of the transmission visually and delivers any associated audio signals to a headset upon connection of the headset to the equipment.

2. CAPABILITIES AND LIMITATIONS.

The direction finder set has a frequency range of 225.0 to 399.9 megacycles in one band. Selection can be made of any one of 1750 crystal-controlled channels. Any 20 of the 1750 channels can be preset in order to allow for their rapid selection.

Inaccuracies in the visual bearing may occur as the result of re-radiation from objects in the antenna vicinity. Operating personnel should acquaint themselves with distortions of the propeller-shaped pattern resulting from such re-radiation. Preknowledge of such distortions will prevent misinterpretations of the visual pattern.

NOTE

> Refer to Section 3, paragraph 3e for information on pattern distortion caused by re-radiation.

3. OPERATION.

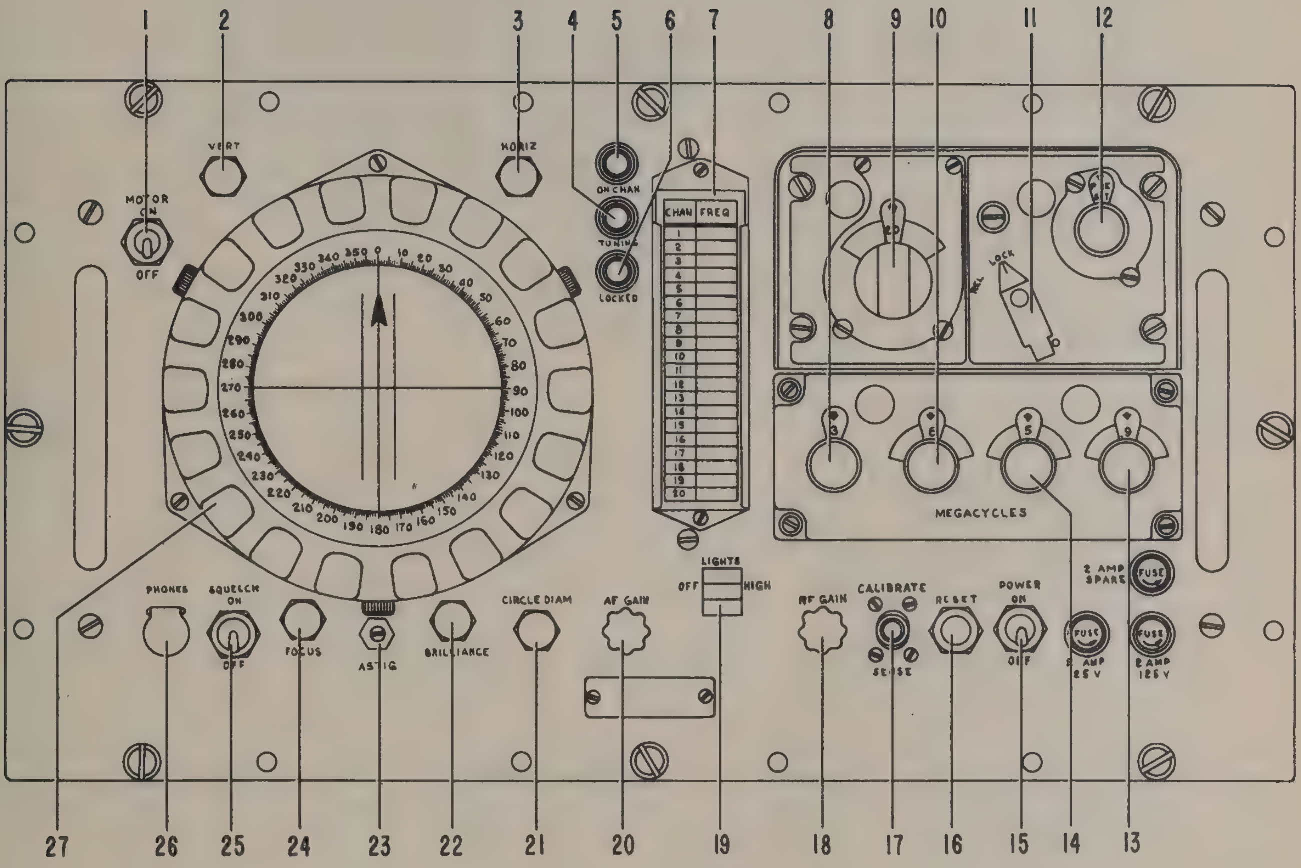
NOTE

> Remote operation, from the indicator, is the normal manner of operation. Local operation, from the receiver group, is intended for maintenance convenience. For remote operation, set LOCAL-REMOTE and LOCAL-OFF-REMOTE switches (figure 3-7) to REMOTE.

Table 4-1 lists controls and switches for operation and their functions.

TABLE 4-1. FUNCTION OF OPERATING CONTROLS AND SWITCHES

CONTROL OR SWITCH	TYPE	FUNCTION
AZIMUTH INDICATOR IP-93/URD-4		
MOTOR	Toggle switch	Controls antenna motor operation
VERTical	Knob, push-to-turn	Centers pattern along vertical axis
HORizontal	Knob, push-to-turn	Centers pattern along horizontal axis
SQUELCH	Toggle switch	Puts squelch circuit in or out of use
BRILLIANCE	Knob, push-to-turn	Adjusts pattern intensity
CIRCLE DIAMeter	Knob, push-to-turn	Sets diameter of circular pattern; may be used to make slight alterations in size of d/f pattern
AF GAIN	Knob	Controls audio level
RF GAIN	Knob	Controls receiver sensitivity
LIGHTS	Knob	Controls panel lamps intensity
CALIBRATE-SENSE	Three-position switch, spring-loaded in SENSE position	Selects function of direction finder set
RESET	Push-button	Causes locked tuning mechanism to recycle
POWER	Toggle switch	Turns direction finder set on or off
Channel selector switch	20-position rotary bar knob switch	Selects one of 20 preset channels
MANual PRESET	Two-position switch	Determines manner of frequency selection
First digit selector	Two-position switch	Selects first digit of desired frequency
Second digit selector	Ten-position switch	Selects second digit of desired frequency
Third digit selector	Ten-position switch	Selects third digit of desired frequency
Fourth digit selector	Ten-position switch	Selects fourth digit of desired frequency
RELease-LOCK	Bar knob	Releases lock of memory cylinder



1 MOTOR switch
2 VERTical control
3 HORIZontal control
4 Amber lamp, TUNING
5 Green lamp, ON CHANnel
6 Red lamp, LOCKED
7 Frequency log chart
8 First digit selector switch
9 Channel selector switch
10 Second digit selector switch
11 RELease LOCK switch
12 MANual PRESET switch
13 Fourth digit selector switch
14 Third digit selector switch
15 POWER switch
16 RESET switch
17 CALIBRATE-SENSE switch
18 RF GAIN control
19 LIGHTS switch
20 AF GAIN control
21 CIRCLE DIAMeter control
22 BRILLIANCE control
23 ASTIGmatism control
24 FOCUS control
25 SQUELCH switch
26 PHONES jack
27 Alidade operating ring

Figure 4-1. Azimuth Indicator IP-93/URD-4, Panel Controls

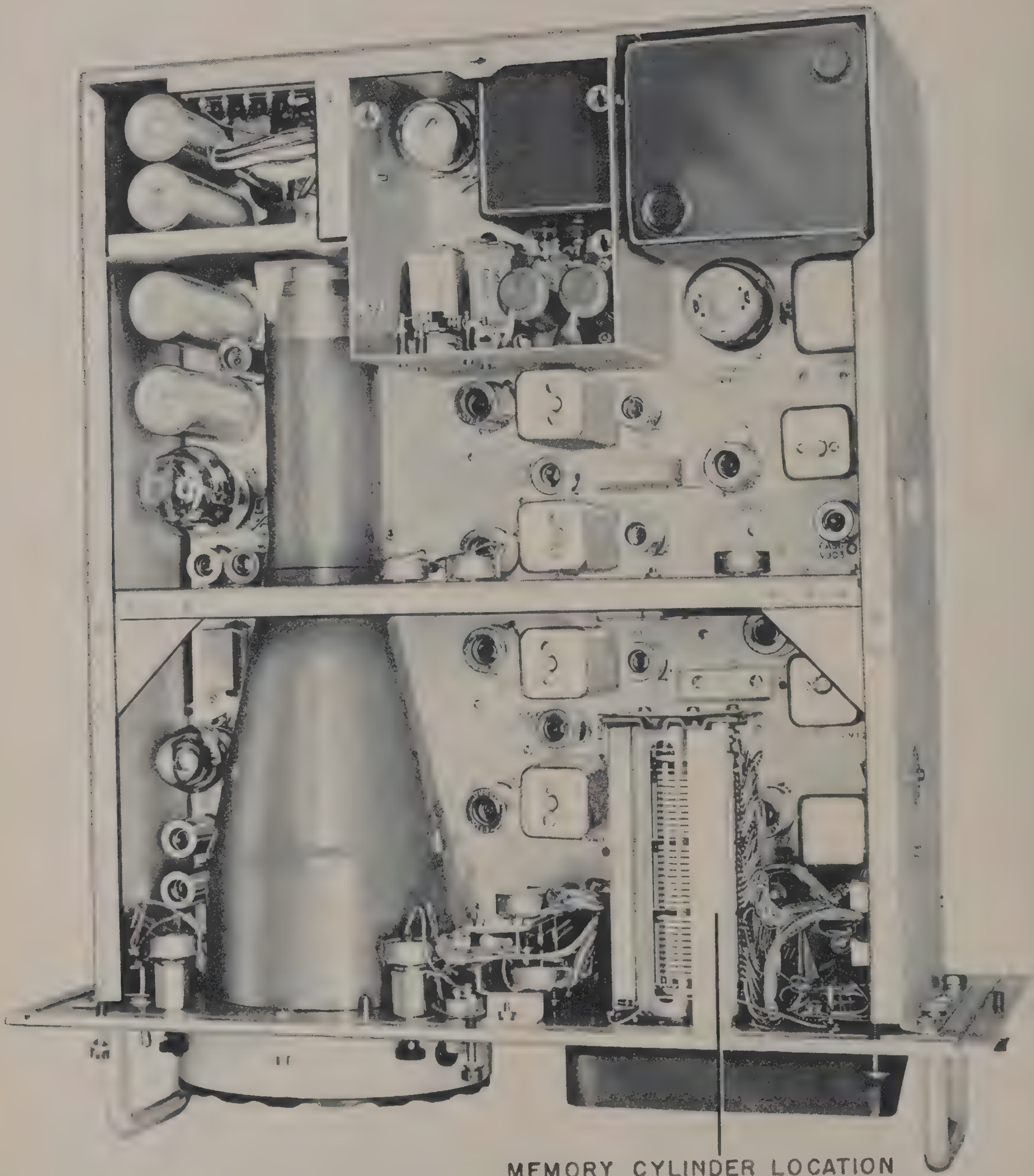


Figure 4-2. Memory Cylinder Location

a. CHANNEL PRESELECTION.—Twenty channels of the 1750 channels available can be preset for rapid selection. Set up these twenty channels as follows:

(1) Log the frequencies of the twenty desired channels on the frequency log chart (7, figure 4-1) held in place on the indicator panel.

(2) Push in the release push button beside the switch and turn the RELease-LOCK switch (11) to RELease.

(3) Grasp the channel selector switch (9) and pull the memory cylinder (figure 4-2) straight out until it is free from the indicator control panel.

(4) Hold the memory cylinder firmly with one hand, with the longitudinal slot up and the cylinder in a horizontal position, the panel facing the holder. Figure 4-3 illustrates the method of holding and setting the memory cylinder.

(5) Rotate the channel selector switch to the desired channel position as indicated by the numbered dial on the panel.

(6) Place the first tab from the rear of the cylinder opposite the index digit marked on the cylinder case which corresponds to the first digit of the four-digit channel frequency being set up on the first preset channel.

(7) Place the second tab from the rear of the cylinder opposite the index digit marked on the cylinder case which corresponds to the second digit of the four-digit channel frequency.

(8) Place the third tab from the rear of the cylinder opposite the index digit marked on the cylinder case which corresponds to the third digit of the four-digit channel frequency.

(9) Place the fourth tab from the rear of the cylinder opposite the index marked on the cylinder case which corresponds to the fourth or decimal digit of the four-digit channel.

(10) Set up the remaining channels as described in steps (5) to (9) inclusive.

(11) Slide the memory cylinder back into place in the indicator (see figure 4-2). Turn RELease-LOCK switch to LOCK.

b. ENERGIZING THE DIRECTION FINDER SET.—Energize the direction finder set as follows:

(1) Throw POWER switch (15, figure 4-1) to ON.

(2) Throw MOTOR switch (1) to ON to start antenna rotation.

(3) Turn LIGHTS switch (19) to give desired level of intensity for lamps on indicator panel.

c. CHANNEL SELECTION.—With the twenty channels preset, a choice can be made as to the mode of channel frequency selection—preset or manual.

(1) PRESET OPERATION.—Preset operation is as follows:

(a) Set MANual PRESET switch (12) to PRESET.

(b) Turn channel selector switch (9) to desired channel number. As the switch is turned the desired channel number will appear under the arrow in the selector dial window, and the tuning mechanism will be activated.

(c) The amber lamp, TUNING (4), glows as the tuning mechanism seeks the channel. When the tuning mechanism comes to rest after finding the channel, the green lamp, ON CHANnel (5), glows.

(d) If the tuning mechanism cannot find the selected channel, due to malfunctioning of the mechanism or because the channel is out of the frequency range of the equipment, the red lamp, LOCKED (6), will glow, indicating that the tuning mechanism is locked. Depress RESET switch (16) momentarily to cause the tuning mechanism to unlock and recycle.

(2) MANUAL OPERATION.—Manual operation is as follows:

(a) Set MANual PRESET switch (12, figure 4-1) to MANual.

(b) Set digit selector switches (8, 10, 13, and 14) to the desired frequency.

(c) The amber lamp, TUNING (4), glows as the tuning mechanism seeks the channel. When the tuning mechanism comes to rest after finding the channel, the green lamp, ON CHANnel (5), glows.

(d) If the tuning mechanism cannot find the selected channel, due to malfunctioning of the mechanism or because the channel is out of the frequency range of the equipment, the red lamp, LOCKED (6), will glow, indicating that the tuning mechanism is locked. Depress RESET switch (16) momentarily to cause the tuning mechanism to unlock and recycle.

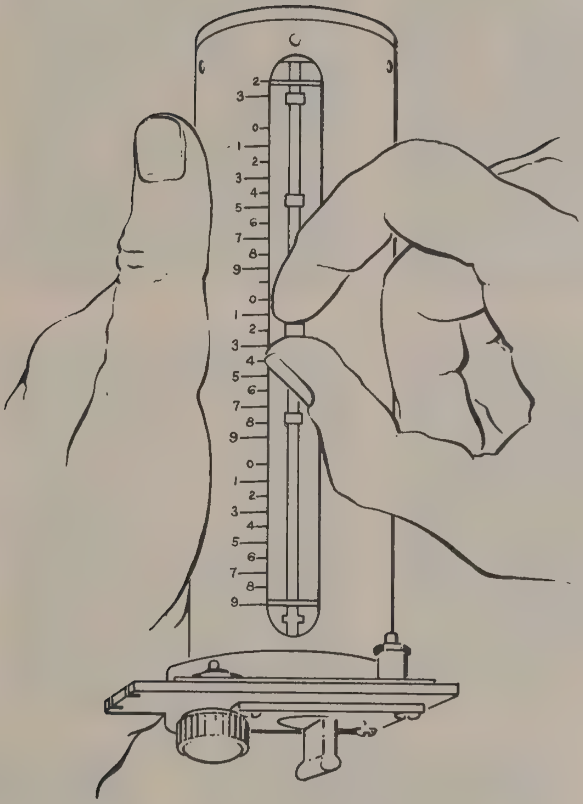
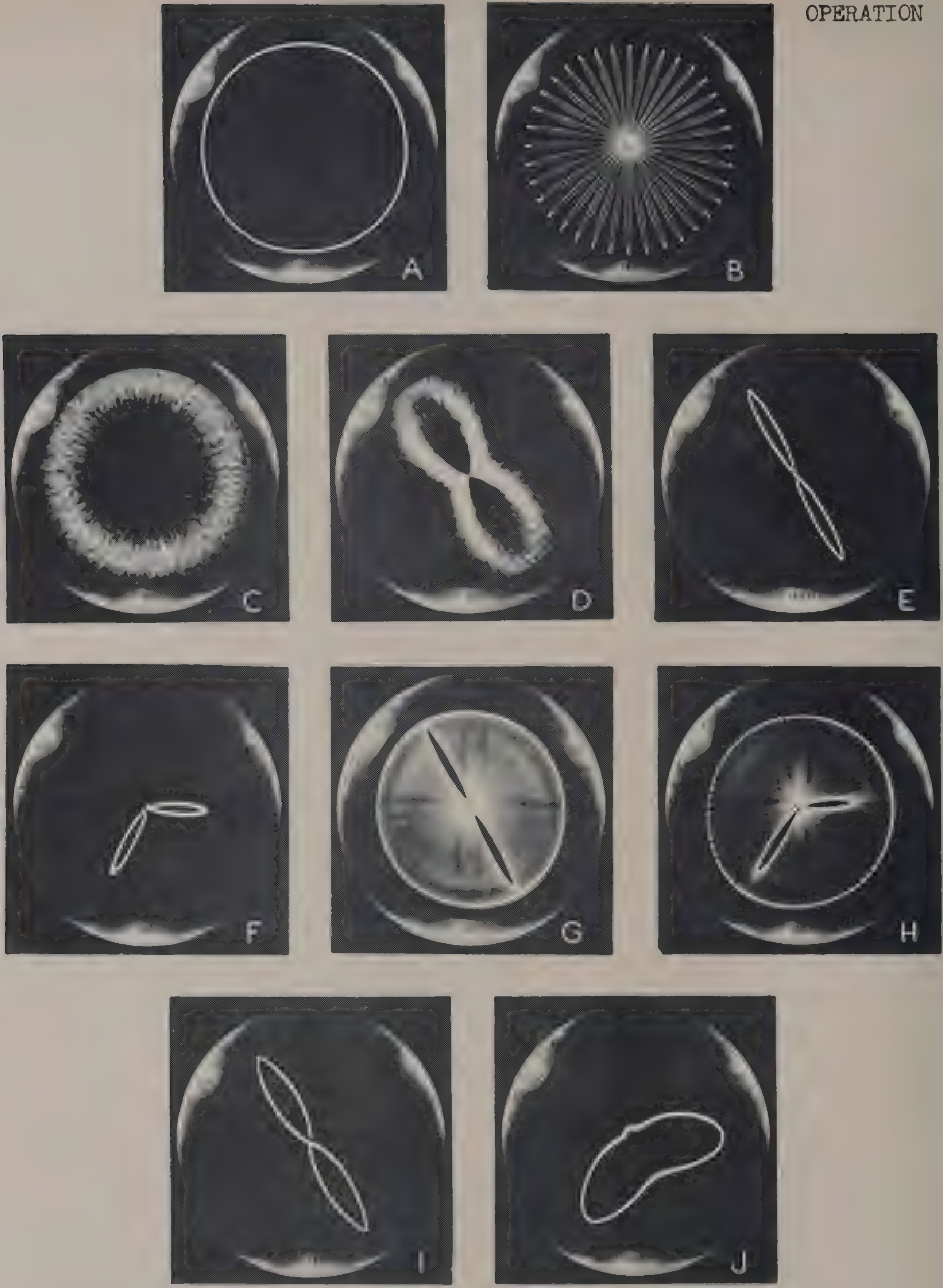


Figure 4-3. Memory Cylinder Adjustment



A Circular pattern
B Calibrate Pattern
C Noise pattern
D Bearing pattern, no modulation, with noise
E Bearing pattern, no modulation
F Sense pattern, no modulation
G Bearing - 100 per cent tone modulation
H Sense - 100 per cent tone modulation
I Bearing pattern - strong signal - r-f gain low
J Sense pattern - strong signal - r-f gain low

Figure 4-4. Typical Operation Patterns

d. CALIBRATION PATTERN CHECK.—Prior to use of the equipment for direction finding, check the calibration pattern as follows:

(1) Throw CALIBRATE-SENSE switch (17) to CALIBRATE.

(2) The tips of the 36 lobes of the calibration pattern should just touch the inside edge of the azimuth scale.

(3) Lobes should be precisely at zero degrees, 90 degrees, 180 degrees, and 270 degrees.

(4) The converging point of the lobes should be at the intersection of the crossed lines of the cursor screen.

(5) If the calibration pattern does not conform to requirements listed in steps (2) to (4) inclusive, have the equipment recalibrated as detailed in Section 3, paragraph 3b.

(6) Adjust the intensity of the calibration pattern with the aid of BRILLIANCE control (22). Adjust focus with FOCUS control (24).

CAUTION

Avoid possible cathode-ray tube damage by setting BRILLIANCE control to minimum. Keep the control to complete counterclockwise position when the direction finder set is not in use.

e. DIRECTION FINDING PROCEDURE.—The direction finding procedure is as follows:

(1) Throw CALIBRATE-SENSE switch (17, figure 4-1) to center position; set RF GAIN control (18) near maximum.

(2) Select the desired channel. Refer to Section 4, paragraph 4c for instructions on channel selection.

(3) When no signal is being received, the cathode-ray tube displays a circular pattern. Random noise will distort the circular pattern if RF GAIN control is at or near maximum.

(4) When a signal is received the circular pattern is resolved into a propeller-shaped pattern, the tips of the propeller pointing along the bearing of the signal.

(5) Rotate the cursor screen by means of the alidade operating ring (27) to line up the arrow etched in the screen with the bearing signal. The two lines parallel to the arrow facilitate alignment.

(6) Throw CALIBRATE-SENSE switch (17) to SENSE. The propeller-shaped pattern will be transformed, the two lobes of the pattern bending back away from the direction of the signal origin.

(7) The bearing of the signal can be read on the azimuth scale. Should the "sense" pattern indicate that the signal origin direction is opposite from the azimuth reading given by the cursor screen arrow, read the true azimuth bearing at the tail end of the arrow.

(8) Insert a headset into PHONES jack (26) if monitoring of the signal modulation is desired. Turn AF GAIN control (20) to the desired volume of audio signal level.

f. DIRECTION FINDING PATTERN INTERPRETATIONS.—Upon the arrival of an r-f signal, the visual signal displayed by the cathode-ray tube is transformed from a circular pattern (A, figure 4-4) to one basically identifiable as a propeller-shaped pattern (E). Noise and various types of signal modulation will distort the propeller-shaped pattern. Proficiency in interpreting the pattern, so as to glean direction finding information, is dependent upon gaining familiarity with the various kinds of patterns and the ability of the operator to discern the propeller-shaped pattern outline despite distortions.

For proper interpretation, the operator must bear in mind that the tips of the propeller-shaped pattern indicate the bearing of the signal and that, in the "sensed" pattern, the apex or inverted "V" portion points in the signal origin direction. The operator, as he becomes proficient, will note that in each pattern the propeller shape is usually discernible and that the "sensed" pattern usually retains its useful characteristics.

(1) UNMODULATED SIGNALS.—A strong, unmodulated r-f signal will produce a symmetrical, propeller-shaped bearing pattern (E) the tips of which are in line with the signal direction.

The sense pattern for an unmodulated r-f signal may resemble a bent propeller, a peanut, or a cardioid, depending upon the frequency and strength of the signal. A strong signal at the high frequency end of the band will resemble a bent propeller (F). As the operating frequency becomes lower or as the signal is decreased, the bent propeller-shaped sense pattern approaches the shape of a peanut or double cardioid (J).

(2) NOISE MODULATED SIGNALS.--Noise modulated signals are distorted by "grass", the amount of grass depending upon the noise level. C of figure 4-4 illustrates a noise modulated circular pattern and D illustrates a noise modulated bearing pattern.

(3) TONE MODULATED SIGNALS.--A tone modulating an r-f signal will produce a series of radial lines which originate from the edge of the propeller-shaped pattern and radiate toward the edge of the screen. The number of radial lines which make up the pattern will be dependent upon the audio frequency of the modulation--the higher the frequency, the greater the number of lines. The distance the radial lines travel toward the edge of the screen is dependent upon percentage of modulation. G, figure 4-4 illustrates a tone-modulated bearing signal; H, figure 4-4 illustrates a tone modulated sense signal.

(4) VOICE MODULATED SIGNALS.--A voice modulated signal will resemble the tone modulated signal except for constant changes affecting the pattern. As the voice changes in pitch, amplitude, and harmonic content, the pattern also changes. With 100 per cent voice modulation, the radial line will extend to the edge of the screen; with less than 100 per cent voice modulation, the radial lines will not reach the screen's edge.

g. AUDIO SIGNAL INTERPRETATION.--By insertion of a headset into PHONES jack (26, figure 4-1), signal modulation can be interpreted aurally. The no-noise level of the audio signal can be limited by throwing SQUELCH switch (25) to ON. Adjustment of the squelch function is accomplished by means of the RF GAIN control (18). Set the audio level by adjustment of AF GAIN control (20).

4. SUMMARY OF OPERATION.

a. ENERGIZING THE DIRECTION FINDER SET.--Energize the direction finder set as follows:

(1) Throw POWER switch (15, figure 4-1) to ON.

(2) Throw MOTOR switch (1) to ON to start antenna rotation.

(3) Turn LIGHTS switch (19) to give desired level of intensity for lamps on the indicator panel.

b. CHECKING CALIBRATION PATTERN.--Check the calibration pattern as follows:

(1) Throw CALIBRATE-SENSE switch (17) to CALIBRATE.

(2) The tips of the 36 lobes of the calibration pattern should just touch the inside edge of the azimuth scale.

(3) Lobes should be precisely at zero degrees, 90 degrees, 180 degrees, and 270 degrees.

(4) The converging point of the lobes should be at the intersection of the crossed lines of the cursor screen.

(5) If the calibration pattern cannot be made to conform to requirements listed in steps (2) to (4) inclusive by adjustment of the panel controls, have the equipment recalibrated as detailed in Section 3, paragraph 3b.

(6) Adjust the intensity of the pattern with BRILLIANCE control (22) and the focus with FOCUS control (24).

c. CHANNEL SELECTION.

(1) PRESET OPERATION.—Preset operation is as follows:

(a) Set MANual PRESET switch (12) to PRESET.

(b) Turn channel selector switch (9) to desired channel number.

(2) MANUAL OPERATION.—Manual operation is as follows:

(a) Set MANual PRESET switch (12) to MANual.

(b) Set digit selector switches (8, 10, 13, and 14) to the desired frequency.

d. DIRECTION FINDING PROCEDURE.—Direction finding procedure is as follows:

(1) Throw CALIBRATE-SENSE switch (17) to center position.

(2) Set RF GAIN control (18) and AF GAIN control (20) to near maximum position.

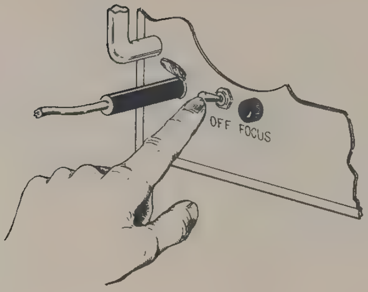
(3) Rotate cursor screen by means of alidade operating ring (27) to line up arrow with the bearing signal.

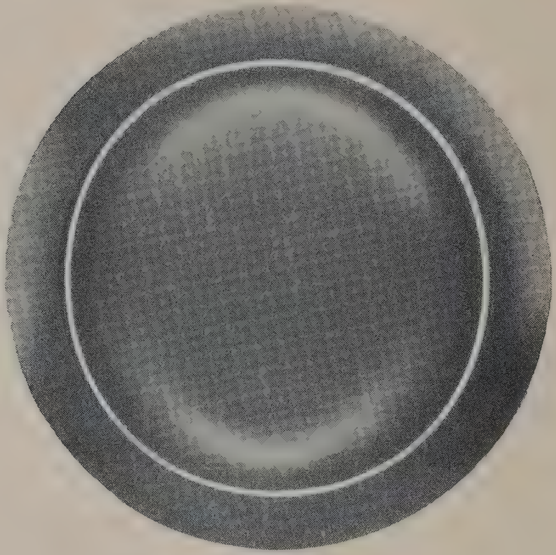
(4) Throw CALIBRATE-SENSE switch (17) to SENSE.

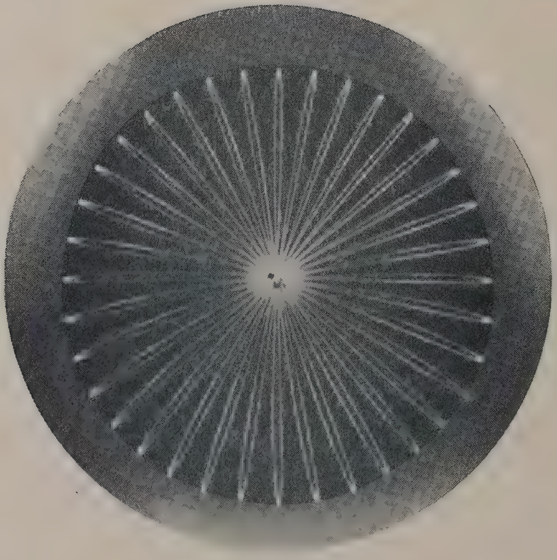
(5) Read the bearing of the signal on the azimuth scale. Signal direction origin is indicated by the two lobes of the pattern bending back away from the signal origin.

(6) Insert headset into PHONES jack (26) for audio reception. If noise level is high, noise can be muted between periods of non-transmission by throwing SQUELCH switch (25) to ON.

e. DE-ENERGIZING DIRECTION FINDER SET.--To de-energize the direction finder set, throw POWER switch (15) to OFF.







Illustrations for Table 5-1.

SECTION 5

OPERATOR'S MAINTENANCE

1. ROUTINE CHECK CHART.

Table 5-1 lists routine checks to precede operation of Direction Finder Set AN/URD-4.

TABLE 5-1. ROUTINE CHECK CHART

WHAT TO CHECK	HOW TO CHECK	PRECAUTIONS
Receiver (See page 5-0, illustration A)	Throw POWER switch (15, figure 4-1) to ON. Throw SQUELCH switch (25) to OFF Turn AF GAIN control (20) to near maximum	Background noise should be heard in headset plugged in PHONES jack (26). Throw SQUELCH switch (25) to ON to suppress noise.
Antenna (See page 5-0, illustration B)	Throw MOTOR switch (1) to ON	Circular pattern should appear indicating antenna rotation
Indicator-calibration pattern (See page 5-0, illustration C)	Throw CALIBRATE-SENSE switch (17) to CALIBRATE	Tips of lobes of pattern should just touch inside edge of azimuth scale. Lobe tips should be precisely at zero, 90, 180, and 270 degrees. Converging point of lobes should be at crossed lines of cursor screen. Refer to Section 3, paragraph 3b if calibration pattern does not conform.

2. EMERGENCY MAINTENANCE.

NOTICE TO OPERATORS

Operators shall not perform any of the following emergency maintenance procedures without proper authorization.

a. REPLACEMENT OF TUBES AND FUSES.

(1) PROBABLE FUSE FAILURE.

WARNING

Never replace a fuse with one of higher rating unless continued operation of the equipment is more important than probable damage. If a fuse burns out immediately after replacement, do not replace it a second time until the cause has been corrected.

Table 5-2 lists symptoms of fuse failure and table 5-3 lists fuse locations.

TABLE 5-2. SYMPTOMS OF FUSE FAILURE

PATTERN ON CRT	SPOT ON CRT	ANTENNA ROTATION	ALIDADE DIAL LIGHTS	RECEPTION	CHANNEL SELECTION POSSIBLE	BLOWN FUSE	VALUE (Amperes)
No	No	No	No	No	No	F701 F702	6 6
No	No	Yes	No	No	Yes	F703	2
No	No	Yes	Yes	No	Yes	F704	3/8
No	Yes	No	Yes	Yes	No	F705	10
Yes	Yes	Yes	Yes	Yes	No	F706	2
No	No	Yes	Yes	Yes	Yes	F901 F902	2 2

TABLE 5-3. FUSE LOCATIONS

SYMBOL	LOCATION	PROTECTS	AMPERES	VOLTS	LOCATION ILLUSTRATED IN
F701 F702	Receiver Group OA-485/URD-4	Primary of power supply transformers T701 and T703	6 6	250 250	Figure 5-1
F703		Primary of power supply transformer T702	2	250	
F704		Secondary of power supply transformer T701	3/8	250	
F705		Low voltage d-c circuit	10	25	
F706		Bridge power circuit	2	250	
F901 F902	Azimuth Indicator IP-93/URD-4	Primary of power supply transformer T902	2 2	125 125	Figure 5-2

(2) TUBE LOCATIONS.—Electron tubes are located and identified by symbol designation and Navy type number in the following illustrations:

Figure 5-3. Power Supply PP-556/URD-4
Figure 5-4. Monitor
Figure 5-5. R-F Head
Figure 5-6. I-F Video-Audio Chassis
Figure 5-7. Azimuth Indicator IP-93/URD-4

(3) REPLACING THE CATHODE-RAY TUBE.—To replace the cathode-ray tube, proceed as follows:

(a) Withdraw indicator from cabinet until it locks in position. Remove the shield from bottom of indicator marked "Caution 3000 Volts" to expose the high voltage lead to the cathode-ray tube.

(b) Remove the three screws holding the alidade in place and pull alidade away from the indicator panel.

(c) Loosen the jam nut (figure 5-9).

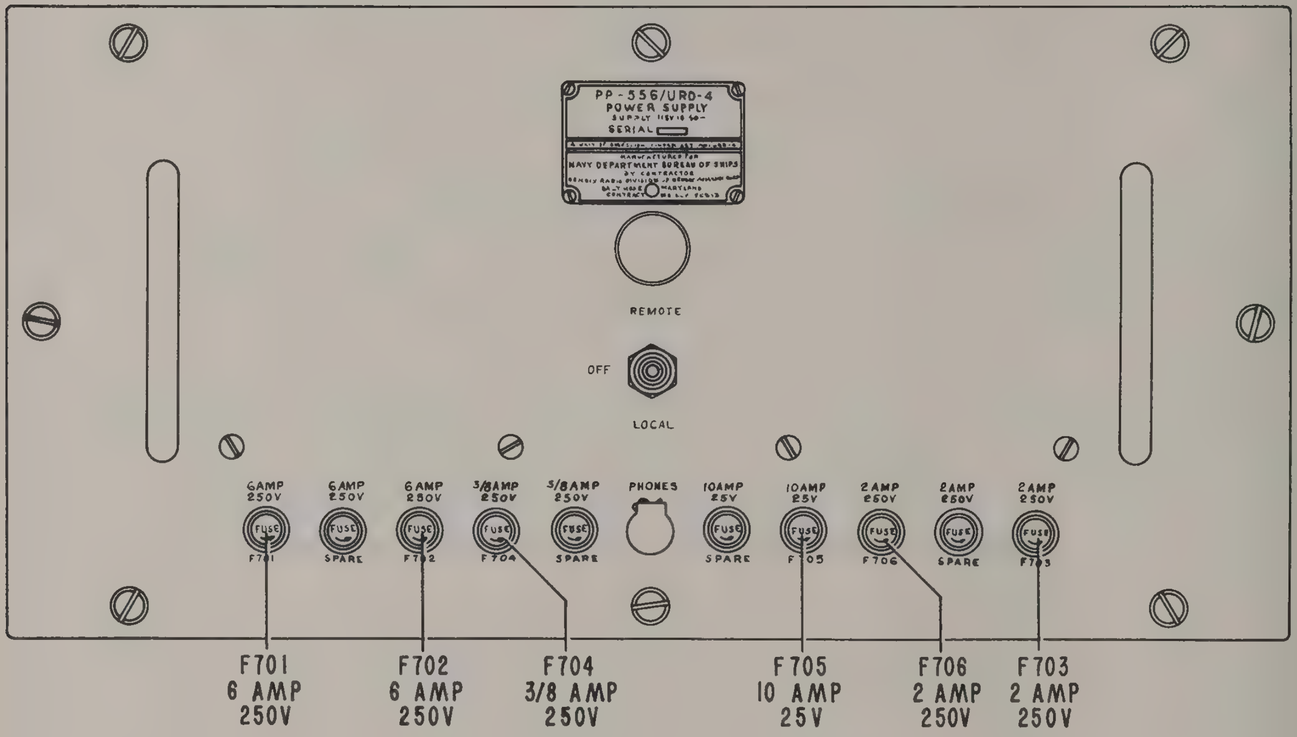


Figure 5-1. Receiver Group OA-485/URD-4,
Fuse Locations

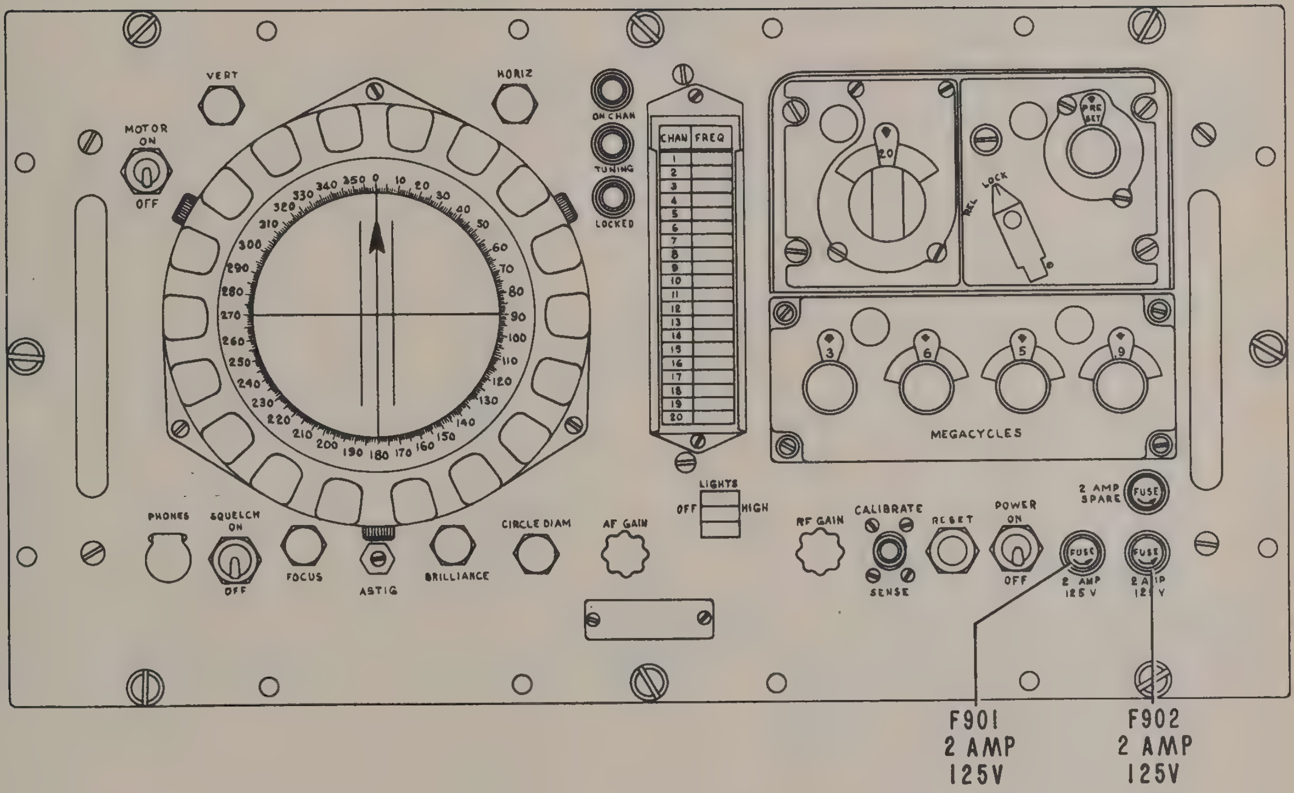


Figure 5-2. Azimuth Indicator IP-93/URD-4, Fuse Locations

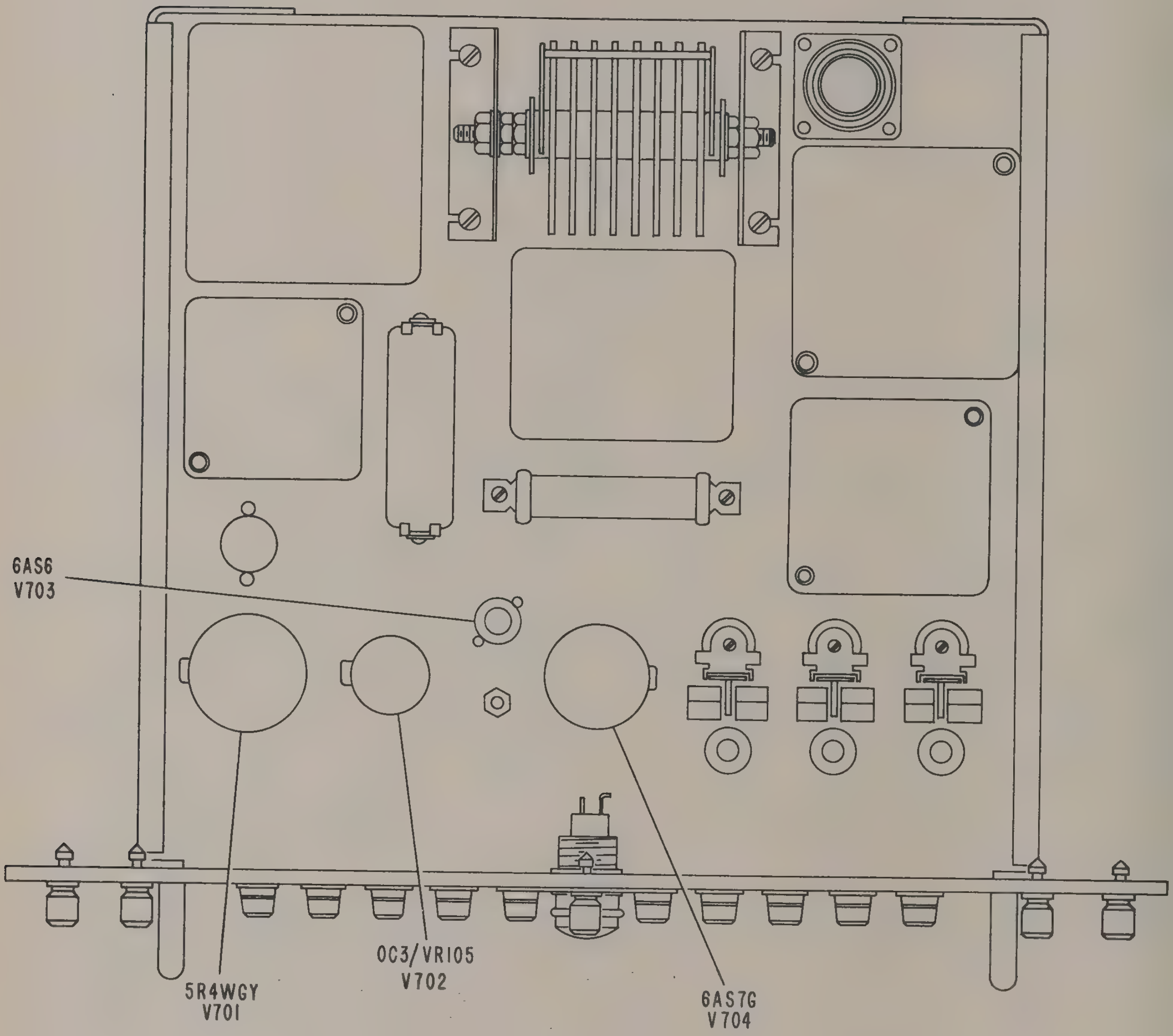


Figure 5-3. Power Supply PP-556/URD-4, Tube Locations

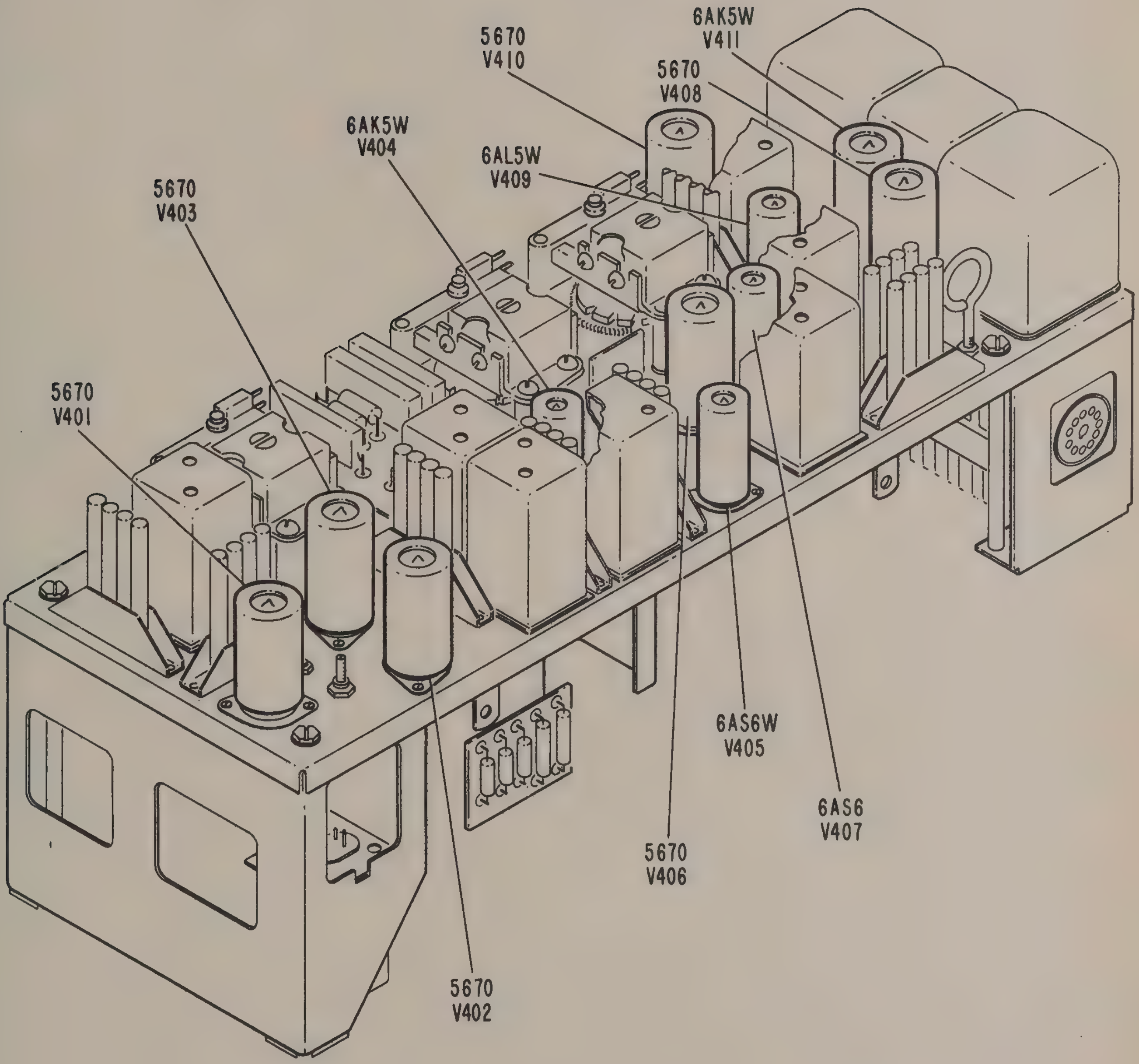


Figure 5-4. Monitor, Tube Locations

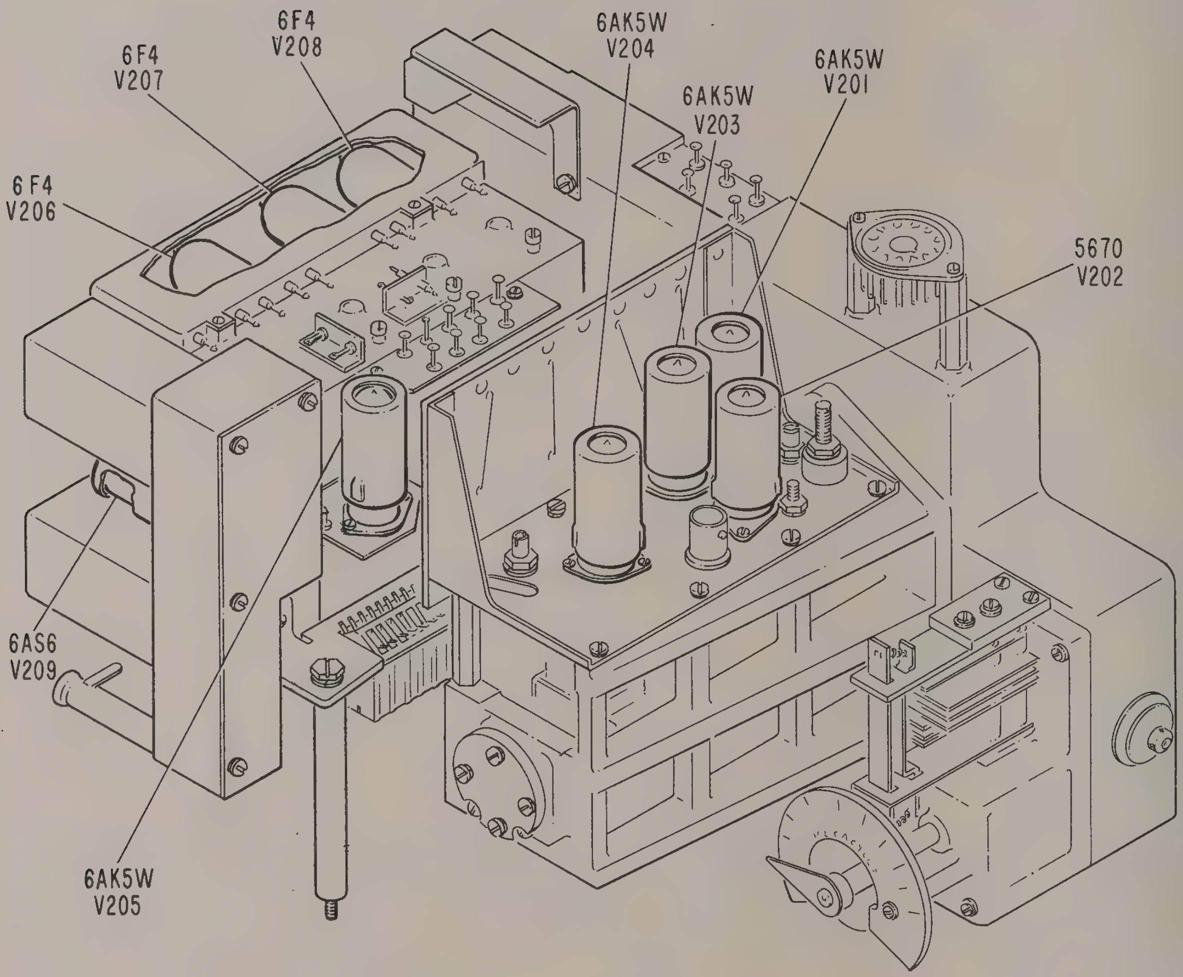


Figure 5-5. R-F Head, Tube Locations

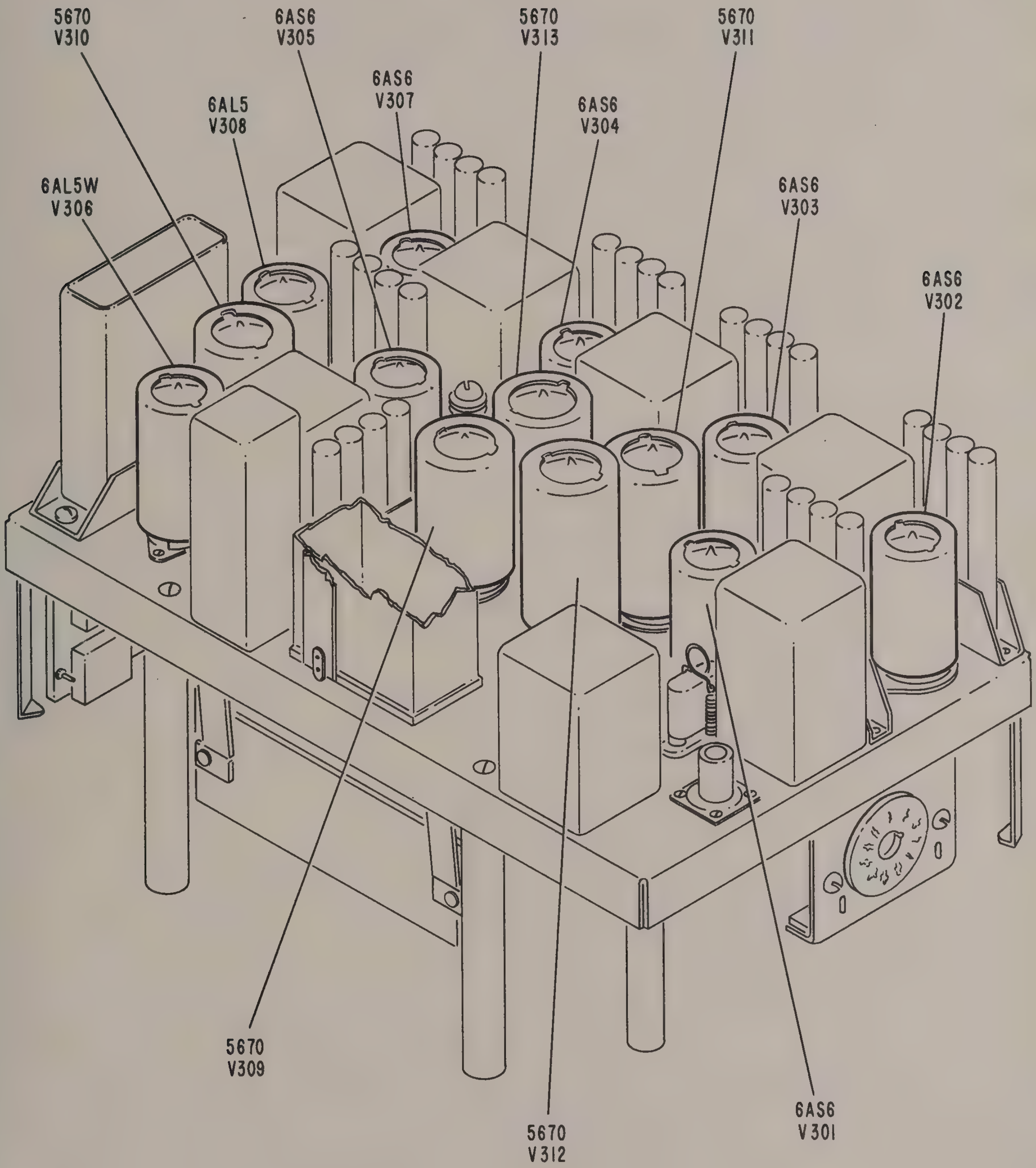


Figure 5-6. I-F Video-Audio Chassis, Tube Locations

WARNING

Wear goggles and heavy gloves when removing or replacing the cathode-ray tube to prevent possibility of injury from tube implosion.

(d) Withdraw the cathode-ray tube by grasping the face of the tube. If the tube is deep-seated, some difficulty may be encountered in its withdrawing. If such is the case, remove the three screws on the indicator panel which hold the tube shield in place and withdraw tube shield and the cathode-ray tube as a unit.

(e) Figure 5-8 illustrates the manner in which the cathode-ray tube is removed by the way of the indicator panel.

(f) Insert the replacement cathode-ray tube into the tube socket. If the tube shield has been withdrawn with the original tube, it must be positioned upon the replacement tube before insertion of the replacement tube. Fasten tube shield into place.

(g) Fasten alidade into place, reconnect high voltage lead, and replace tube shield.

(h) Put equipment into operation and display the calibration pattern. With the calibrating lever (figure 5-9), adjust the cathode-ray tube to make tip of lobe of pattern fall at zero degrees.

CAUTION

Be sure jam nut (figure 5-9) is loose before attempt is made to move calibrating lever; otherwise, damage to the cathode-ray tube will result.

(i) Tighten jam nut.

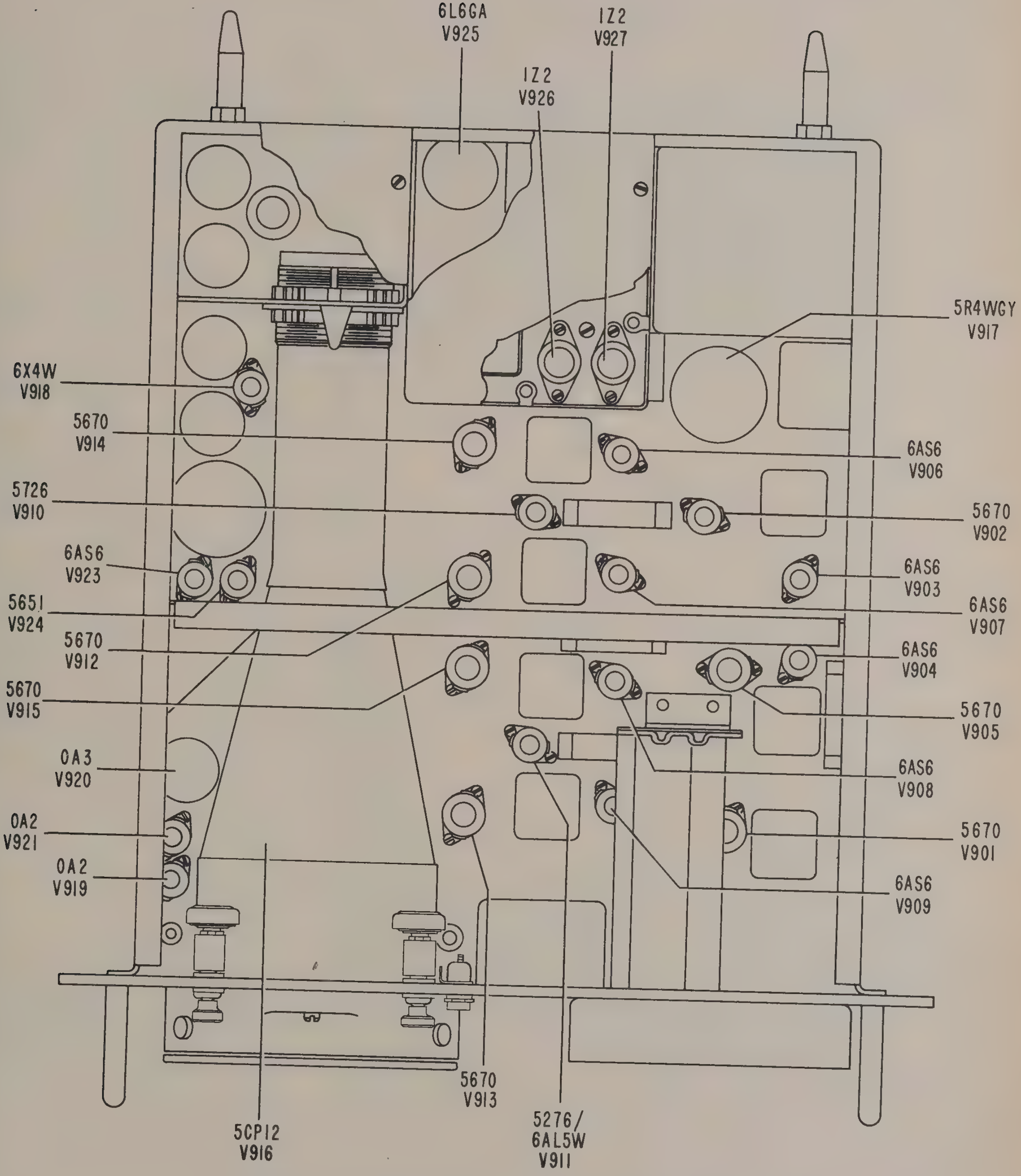


Figure 5-7. Azimuth Indicator IP-93/URD-4, Tube Locations

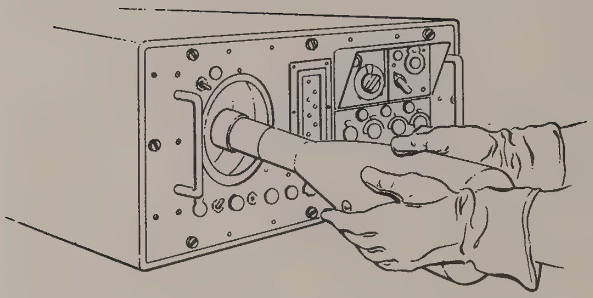


Figure 5-8. Cathode-Ray Tube Removal

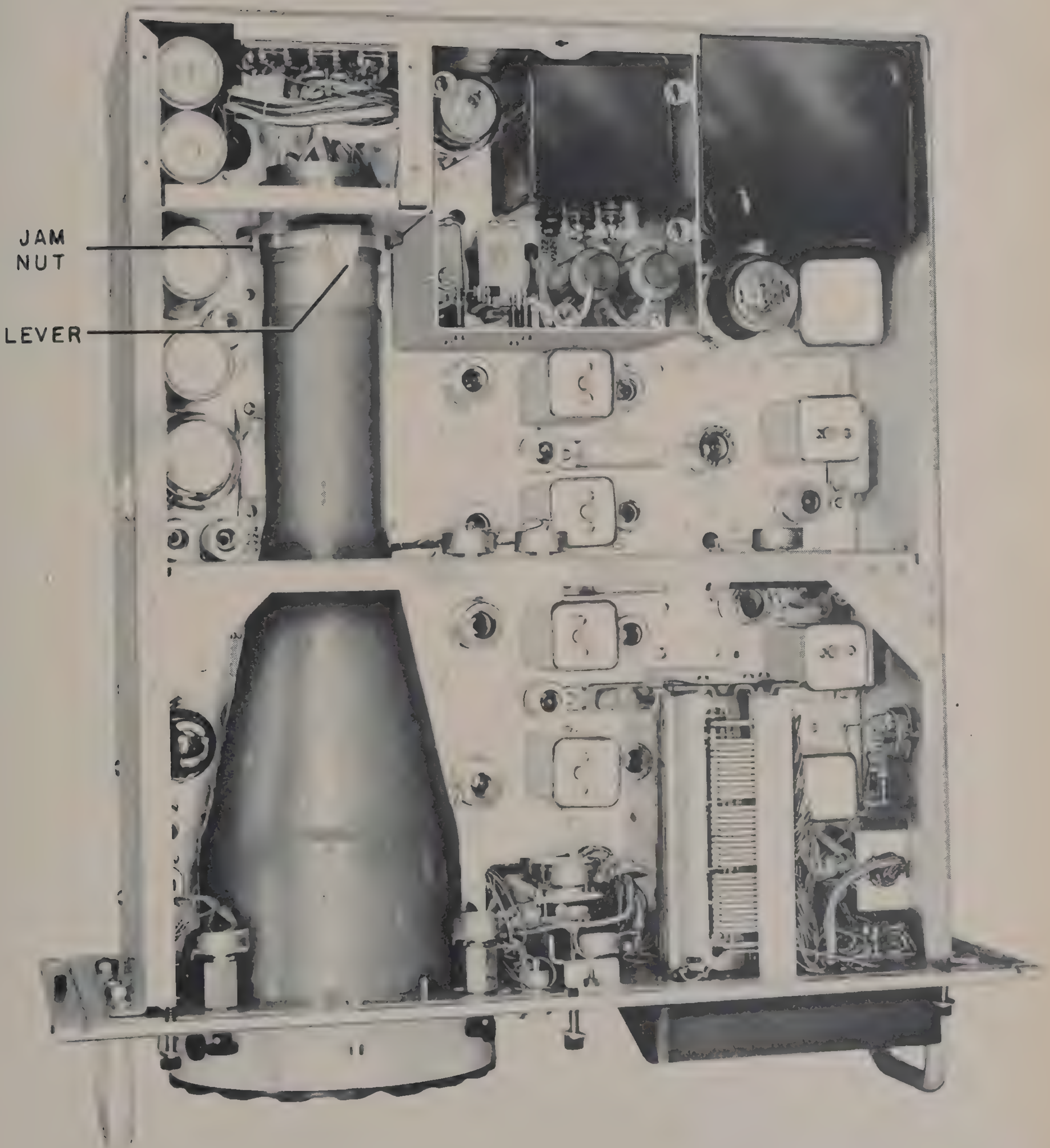


Figure 5-9. Cathode-Ray Tube, Adjustments Location

SECTION 6

PREVENTIVE MAINTENANCE

1. ROUTINE MAINTENANCE CHECK CHART.

NOTE

THE ATTENTION OF MAINTENANCE PERSONNEL IS INVITED TO THE REQUIREMENTS OF CHAPTER 67 OF THE BUREAU OF SHIPS MANUAL OF THE LATEST ISSUE.

Table 6-1 is a routine maintenance check chart listing items to be checked before commencing operation of the direction finder set.

TABLE 6-1. ROUTINE MAINTENANCE CHECK CHART

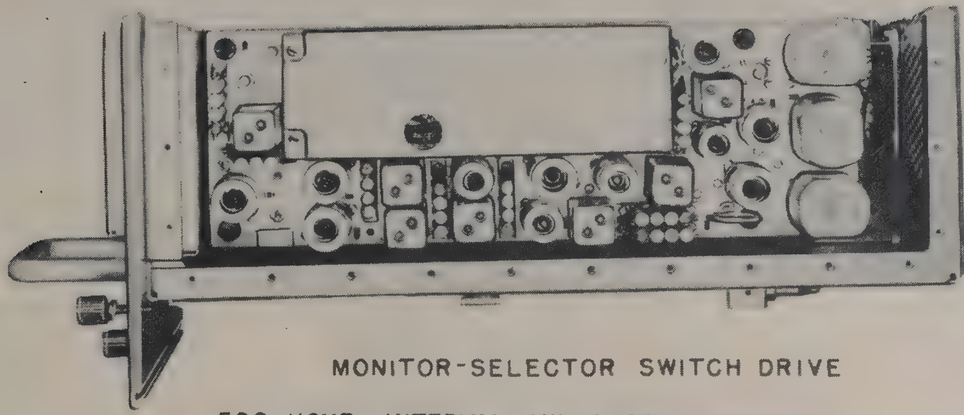
WHAT TO CHECK	HOW TO CHECK	PRECAUTIONS
1. Antenna rotation	a. Throw MOTOR switch to ON (1, figure 4-1)	Circular pattern should appear.
2. Calibration pattern	a. Throw CALIBRATE-SENSE switch (17, figure 4-1) to CALIBRATE	Tips of lobes should just touch inside edge of azimuth scale. Lobes should be precisely at zero, 90, 180, and 270 degrees. Converging point of lobes should be at intersection of crossed lines of cursor screen.
3. Temperature and ventilation	a. Check operating temperatures of units	If temperatures are excessive within units, determine cause.
	b. Check to see that blowers are operating	

2. LUBRICATION.

Lubrication data is listed in figure 6-1.

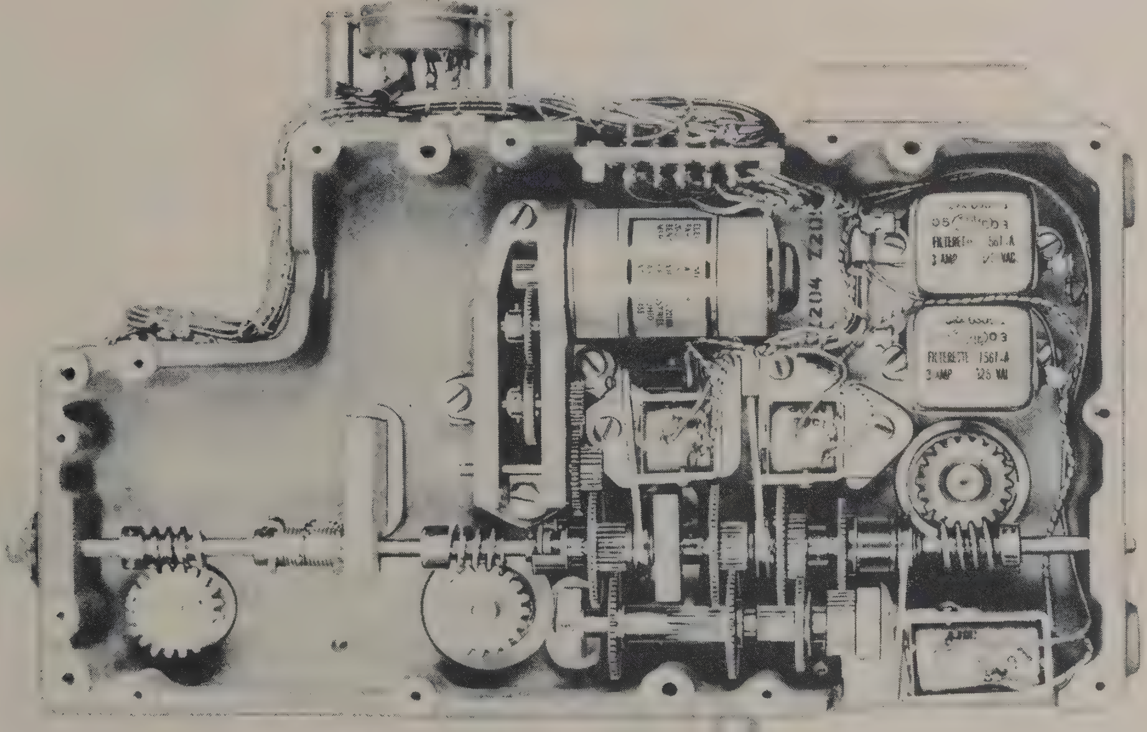
3. ANTENNA AS-514/URD-4, BRUSH INSPECTION AND REPLACEMENT.

A pair of silver-graphite brushes make contact with the rotary shaft of the antenna and are the means by which sense power is conveyed to the sense relay. Worn brushes will cause erratic sense operation; but due to their composition, brush wear is slow. Brush inspection after every 5000 hours of equipment operation is suggested but not always possible, due to brush location. Removal of the antenna from the mast and partial antenna disassembly is necessary for brush inspection. It is practical, therefore, to inspect the brushes each time the brush caps are accessible. Replace brushes if they are worn down to one-quarter inch in length. Figure 6-2 illustrates the location of one brush cap, the other cap being located on the other side of the shaft. Refer to Section 7, paragraph 3b(2)(a)1a for instructions on antenna disassembly. Replace worn brush by removing brush cap and brush spring, withdrawing old brush and inserting a new brush in its place, being careful to place curve on brush in proper relation to shaft. Replace brush spring and tighten brush cap in place.



MONITOR-SELECTOR SWITCH DRIVE

500 HOUR INTERVAL—MIL-G-3278-GREASE
LIFT COVER TO EXPOSE GEARS-
COAT GEAR TEETH WITH THIN FILM.



R-F HEAD-TUNING DRIVE

500 HOUR INTERVAL-MIL-G-3278 GREASE-THIN
COATING ON ALL GEAR TEETH OF TUNING DRIVE

NAVY LUBRICANT		FEDERAL STANDARD STOCK CATALOG			NEAREST COMMERCIAL LUBRICANT
SPECIFICATION	TITLE	8 OZ TUBE	1 LB CAN	5 LB CAN	
MIL-G-3278	Grease	R14-G-984-500	R14-G-982-20	R14-G-984-520	Aeroshell Grease II Socony P.D.950-A Texas Co.TG-749

Figure 6-1. Lubrication Data

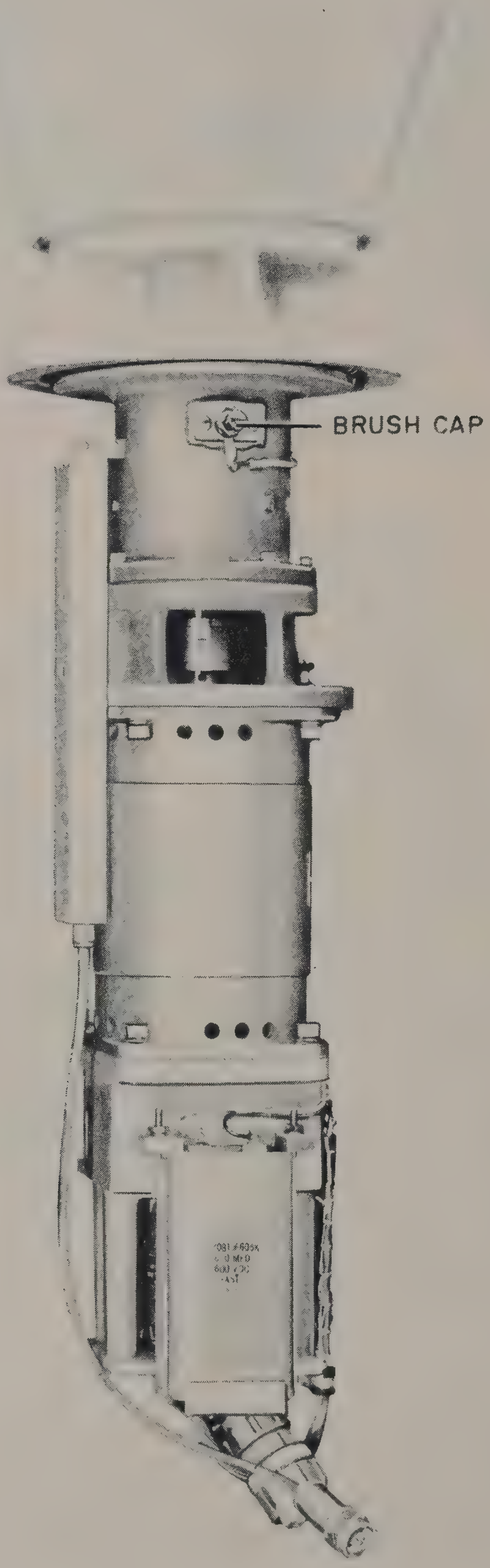


Figure 6-2. Antenna AS-514/URD-4, Brush Cap Location

FAILURE REPORTS

A FAILURE REPORT must be filled out for the failure of any part of the equipment whether caused by defective or worn parts, improper operation, or external influences. It should be made on Failure Report, form NAVSHIPS 383, which has been designed to simplify this requirement. The card must be filled out and forwarded to BUSHIPS. Full instructions are to be found on each card.

Use great care in filling the card out to make certain it carries adequate information. For example under "Circuit Symbol" use the proper circuit identification taken from the schematic drawings, such as T–803, in the case of a transformer, or R–207, for a resistor. Do not substitute brevity for clarity. Use the back of the card to completely describe the cause of failure and attach an extra piece of paper if necessary.

The purpose of this report is to inform BUSHIPS of the cause and rate of failures. The information is used by the Bureau in the design of future equipment and in the maintenance of adequate supplies to keep the present equipment going. The cards you send in, together with those from hundreds of other ships, furnish a store of information permitting the Bureau to keep in touch with the performance of the equipment of your ship and all other ships of the Navy.

This report is not a requisition. You must request the replacement of parts through your Officer-in-Charge in the usual manner.

Make certain you have a supply of Failure Report cards and envelopes on board. They may be obtained from the nearest District Printing and Publication Office.

Figure 7-1. Failure Report

SECTION 7

CORRECTIVE MAINTENANCE

1. THEORY OF LOCALIZATION.

Trouble shooting the direction finder set will be facilitated if a system is devised by which troubles can be quickly localized to a particular unit. A localization system will save man-hours of labor and will enable maintenance personnel to put equipment back into operation in the shortest period of time.

2. SYSTEM TROUBLE SHOOTING.

a. LOCATING FAULTY UNIT.—The following items should be kept in mind when an attempt is made to locate a faulty unit:

(1) For purposes of maintenance, the direction finder set can be operated "local" through controls contained in Receiver Group OA-485/URD-4.

(2) Azimuth Indicator IP-93/URD-4 has a self-contained power supply. Faulty components in the indicator, therefore, will not prevent operation of the receiver.

(3) Antenna AS-514/URD-4 must be rotated to obtain either the calibration or bearing pattern.

TABLE 7-1. RADIO TEST SET TS-777/URD-4 OPERATIONAL DATA

UNIT TESTED	CIRCUIT TESTED	METER SELECTOR SWITCH POSITION	ELEVEN PIN PROBE IN	DESIRED METER INDICATION
Receiver:				
IF Video - Audio Chassis	Voltage	3	J302	60-70
	Oscillator drive	4		min. of 30
	Video output (no signal)	9		66
	Audio output (for 100-mw output)	10		50
Monitor	Bridge balance	1		0
	Bridge balance	2	J402	0
	Voltage	3		35
	1st crystal oscillator	4		min. of 50
	2nd crystal oscillator	5		min. of 40
	3rd crystal oscillator	6		min. of 40
	4th crystal oscillator	7		min. of 40
	Discriminator input	8		min. of 10

TABLE 7-1. RADIO TEST SET TS-777/URD-4 OPERATIONAL DATA (cont)

UNIT TESTED	CIRCUIT TESTED	METER SELECTOR SWITCH POSITION	ELEVEN PIN PROBE IN	DESIRED METER INDICATION
Receiver:				
Monitor (Cont'd)	Reactance circuit	9		min. of 30
	Discriminator test	11		min. of 25
R-F Head	Oscillator output 399.9 mc	5	J204	min. of 10
	mixer injection 225.0 mc	5		
	Oscillator output 399.9 mc	4	J204	25
	doubler injection 225.0 mc	4		15
Indicator	Voltage	3	J905	92
	High voltage	7		min. of 33
	High voltage	9		min. of 33
Power Supply	Voltage	3	J703	67
	Voltage	9		60

3. UNIT TROUBLE SHOOTING AND REPAIR.

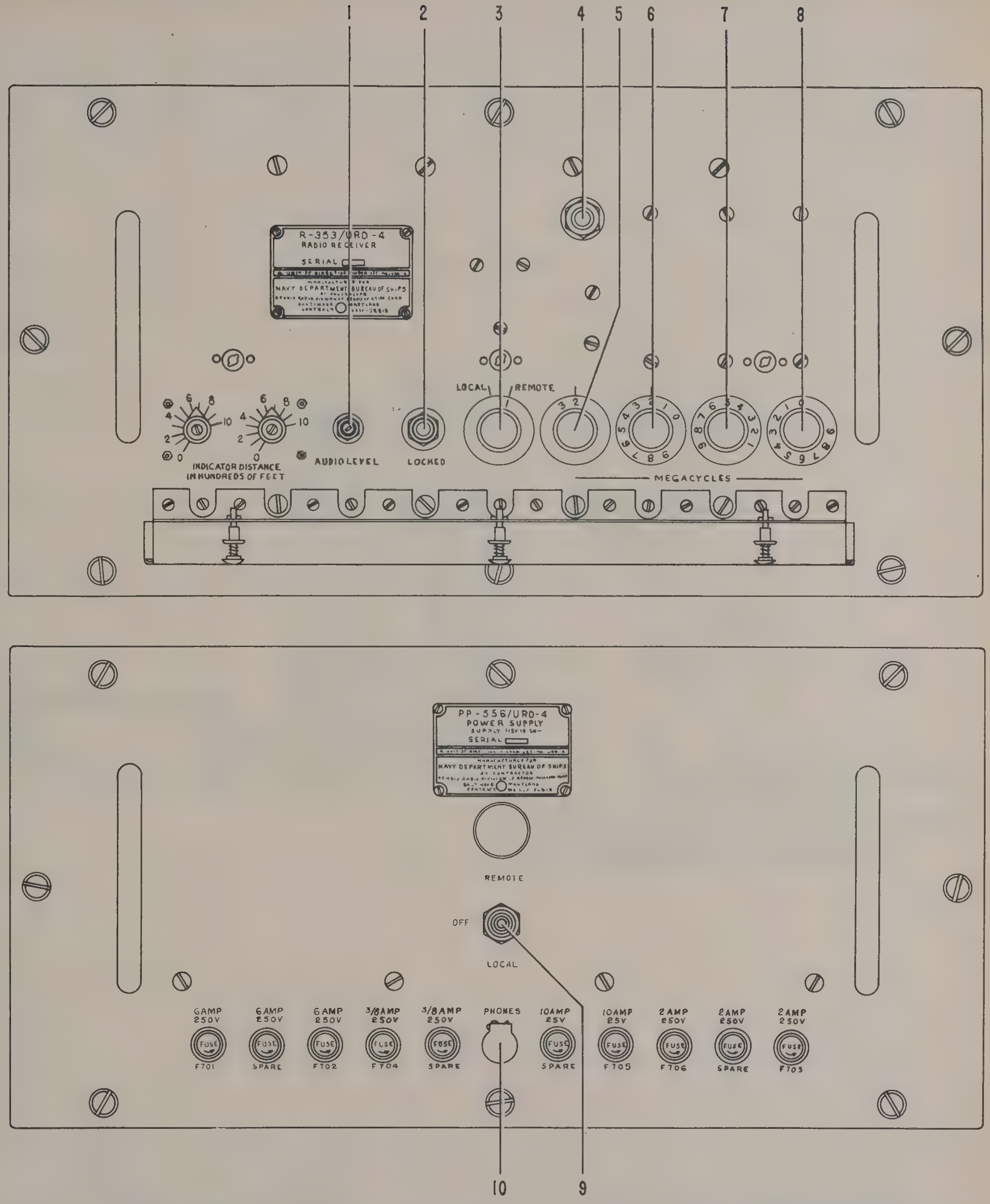
a. TROUBLE SHOOTING.

WARNING

The indicator contains high-voltage circuits. Use extreme caution in making interior adjustments in the indicator with the power on.

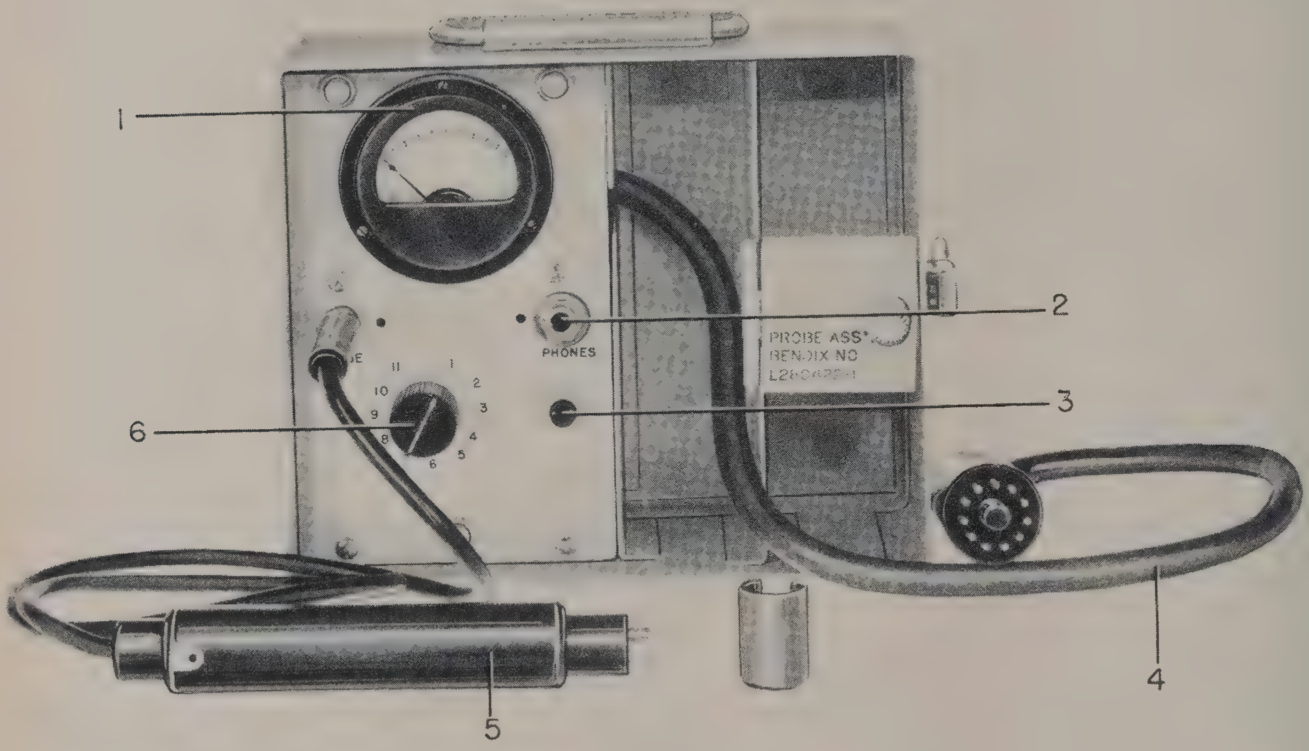
(1) TROUBLE-SHOOTING PROCEDURE.—While normal operation is from the indicator, controls are available on the receiver which allow operation of the direction finder set from the receiver position for ease in performing maintenance. Figure 7-2 illustrates the maintenance controls of the receiver group. Set LOCAL-REMOTE switch (3) and LOCAL-OFF-REMOTE switch (9) to LOCAL if set operation from the receiver is desired. Channel frequency can be selected by digit selector switches (5, 6, 7, and 8). Audio modulation can be monitored by a headset plugged into PHONES jack (10).

The receiver consists of three units—r-f head, monitor, and i-f video-audio chassis. Each of these units may be removed from the receiver frame



1 AUDIO LEVEL control
2 LOCKED lamp
3 LOCAL-REMOTE switch
4 RESET switch
5 First digit selector switch
6 Second digit selector switch
7 Third digit selector switch
8 Fourth digit selector switch
9 LOCAL-OFF-REMOTE switch
10 PHONES jack

Figure 7-2. Receiver Group OA-485/URD-4, Maintenance Controls



1 Meter
2 PHONES jack
3 Sensitivity switch
4 Eleven-pin probe
5 Seven-pin probe
6 Meter selector switch

Figure 7-3. Radio Test Set TS-777/URD-4

and be reconnected back into the receiver by means of patch cables supplied. Patch cable connections permit ready substitution of suspect units; they also allow quick access to the units for the purpose of adjustments during periods of operation.

Radio Test Set TS-777/URD-4 is a general purpose test set for checking the direction finder set. Table 7-1 lists data for the use of the test set as a means of rapidly checking the direction finder set. Actual readings should fall within ten per cent of the desired meter indications listed. Additional information for the use of the test set is contained in tables 7-4, 7-5, and 7-6. Features of the test set are illustrated in figure 7-3.

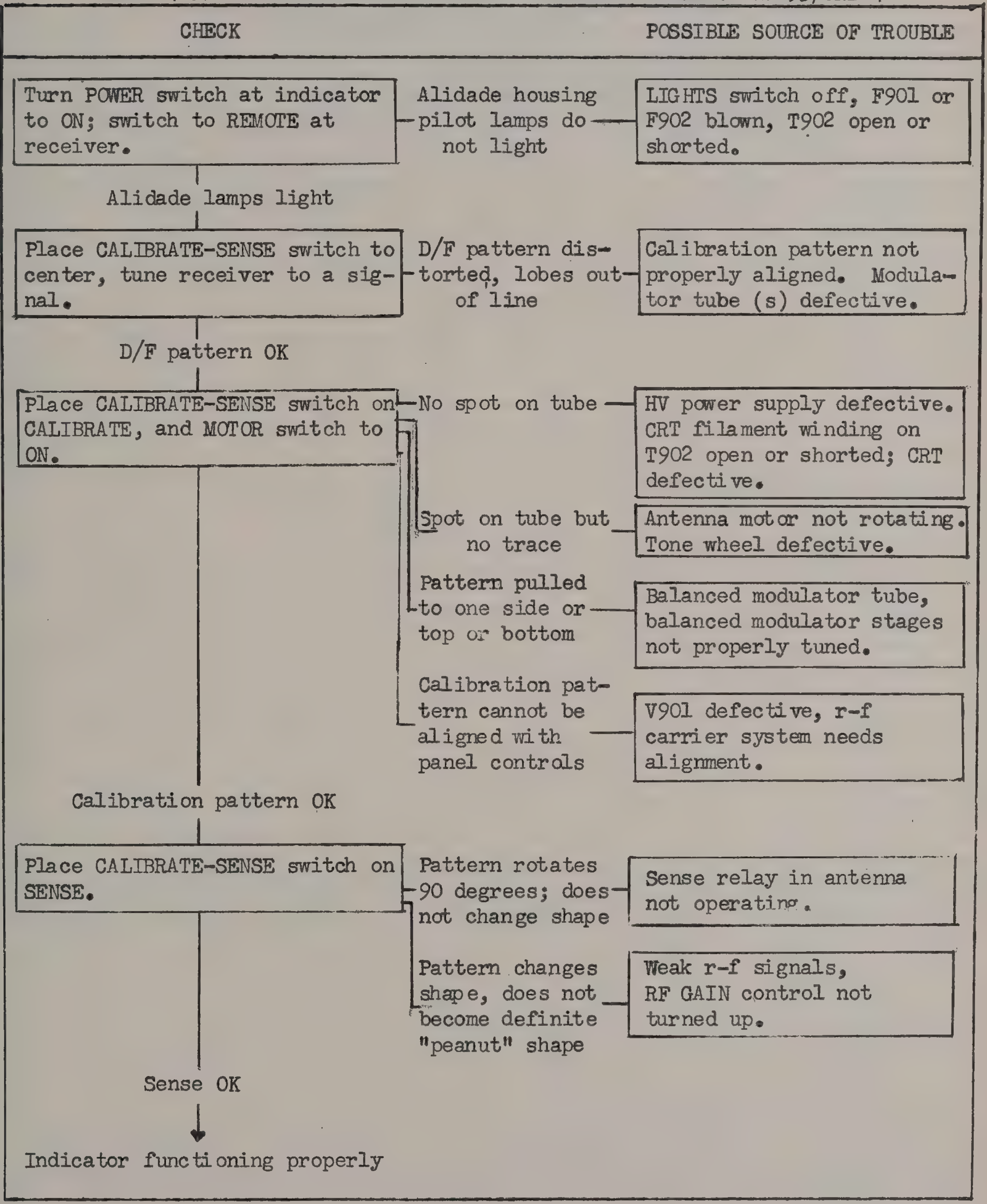
(2) TROUBLE-SHOOTING CHART.--Table 7-2 and table 7-3, trouble-shooting charts, list items to be checked and possible sources of trouble. The use of the servicing block diagram (figure 7-25), in conjunction with tables 7-2 and 7-3, will expedite trouble-shooting procedures.

(3) CIRCUIT CONSTANTS.--The relative location of all circuit components, identified as to their circuit symbol, are illustrated in figures 7-4 to 7-9, inclusive. Voltage and resistance measurements from all tube socket pins to ground are listed in figures 7-54 to 7-58, inclusive.

TABLE 7-2. TROUBLE-SHOOTING CHART - RECEIVER GROUP OA-485/URD-4

CHECK		POSSIBLE SOURCE OF TROUBLE
Turn switch on receiver to REMOTE; power switch ON at indicator.	Power supply pilot lamp does not light	F701 or F702 blown. T701 open or shorted.
Pilot lamp lights		
Set channel selector switch to a source of modulated signals and plug a headset into PHONE jack on power supply panel. Set RF GAIN to maximum.	Tuning drive motor does not stop on channel	Reactance tube or its circuit out of order, monitor not properly aligned.
	No aural response	Tubes, circuit components in i-f video-audio chassis.
	Weak signals	R-f head tuned circuits misaligned, i-f circuits not properly aligned, weak tubes.
	Excessive noise with signals	I-f circuits misaligned, defective tube or tubes.
Signals OK		
Select different channels with channel selector.	Channel does not change	Selector switch drive motor not operating.
	Wrong channel selected	Monitor circuits in need of alignment.
	Tuning mechanism locks up, red LOCKED lamp glows	May occur in normal operation. If RESET button does not cause rechannelling and proper selection, monitor circuits and/or r-f head needs alignment, defective tube, crystal.
Selects channels		
Receiver operates satisfactorily		

TABLE 7-3. TROUBLE-SHOOTING CHART - AZIMUTH INDICATOR IP-93/URD-4



CHECK		POSSIBLE SOURCE OF TROUBLE
Turn POWER switch at indicator to ON; switch to REMOTE at receiver.	Alidade housing pilot lamps do not light	LIGHTS switch off, F901 or F902 blown, T902 open or shorted.
Alidade lamps light		
Place CALIBRATE-SENSE switch to center, tune receiver to a signal.	D/F pattern distorted, lobes out of line	Calibration pattern not properly aligned. Modulator tube (s) defective.
D/F pattern OK		
Place CALIBRATE-SENSE switch on CALIBRATE, and MOTOR switch to ON.	No spot on tube	HV power supply defective. CRT filament winding on T902 open or shorted; CRT defective.
	Spot on tube but no trace	Antenna motor not rotating. Tone wheel defective.
	Pattern pulled to one side or top or bottom	Balanced modulator tube, balanced modulator stages not properly tuned.
	Calibration pattern cannot be aligned with panel controls	V901 defective, r-f carrier system needs alignment.
Calibration pattern OK		
Place CALIBRATE-SENSE switch on SENSE.	Pattern rotates 90 degrees; does not change shape	Sense relay in antenna not operating.
	Pattern changes shape, does not become definite "peanut" shape	Weak r-f signals, RF GAIN control not turned up.
Sense OK		
Indicator functioning properly		

TABLE 7-4. MONITOR ADJUSTMENT DATA

CIRCUIT	RADIO TEST SET TS-777/URD-4			CHANNEL FREQUENCY (MC)	TUNE	DESIRED METER INDICATION
	SEVEN-PIN PROBE IN	ELEVEN-PIN PROBE IN	SELECTOR SWITCH POSITION			
Frequency Multiplier	XV404			Set first digit to 3	L401 Z402 P & S	Maximum
Harmonic Generator	XV405			315.0 295.0	Z401 P & S C420 & C427	Maximum
12.0 - 12.9 mc Bandpass Filter	XV405			295.0	Z403 P Z404 P & S	Maximum Tune P and S of Z404 to equal indications.
20.3 - 21.3 mc Bandpass Filter	XV405			Set first digit to 3	Z403 S	Maximum
8.8 - 9.0 mc Bandpass Filter	XV407			295.0	Z405 P & S	Maximum
5.1 - 5.2 mc Bandpass Filter		J402	8	295.0	Z406 P & S	Maximum
29.1-mc trap		J402	8	344.5	L412	Minimum
4th Crystal Oscillator		J402	7	344.5	Z407 P & S	Maximum

TABLE 7-5. CRYSTAL CIRCUITS ALIGNMENT DATA

CRYSTAL OSCILLATOR CIRCUIT	CRYSTAL	RADIO TEST SET TS-777/URD-4 SELECTOR SWITCH POSITION	DIGIT SELECTOR SWITCH SETTING				TUNE	DESIRED METER INDICATION	GROUND
			1	2	3	4			
1st	Y401	4					L402	Minimum of 50	
2nd	Y403	5			0,1		C477A	40-100	3 of XV406
	Y402				2,3		C477E		
	Y406				4,5		C477D		
	Y405				6,7		C477C		
	Y404				8,9		C477B		
3rd	Y411	6			0	0,1	C478F	40-100	7 of XV406
	Y410					2,3	C478P		
	Y409					4,5	C478N		
	Y408					6,7	C478L		
	Y407					8,9	C478J		
	Y416	6			1	0,1	C478G	40-100	7 of XV406
	Y415					2,3	C478Q		
	Y414					4,5	C478O		
	Y413					6,7	C478M		
	Y412					8,9	C478K		
4th	Y417	7				1,3,5,7,9	C478S	25-100	3 of XV406
	Y418					0,2,4,6,8	C478R		

TABLE 7-6. I-F VIDEO - AUDIO CHASSIS ALIGNMENT DATA

RADIO TEST SET TS-777/URD-4		SIGNAL GENERATOR INPUT TO J301	TUNE TO MAXIMUM
ELEVEN-PIN PROBE IN	SELECTOR SWITCH POSITION		
J302	9	15.325 mc	Z301 Z305 P & S
		15.351 mc	Z302 S Z303 S Z304 S
		15.299 mc	Z302 P Z303 P Z304 P
		15.325 mc	Z306

b. REPAIR.

(1) ELECTRICAL ADJUSTMENTS.

(a) POWER SUPPLY PP-556/URD-4.—Adjust the power supply as follows:

1. Insert eleven-pin probe of Radio Test Set TS-777/URD-4 (test set) into jack J703. (See figure 7-10.) Set meter selector switch of test set to position 3.

2. Adjust VOLTAGE ADJUST (figure 7-10) for 67 divisions of the test set meter—an equivalent of 200 volts dc.

(b) RADIO RECEIVER R-353/URD-4.

1. MONITOR.—Table 7-4 lists alignment data for the monitor; figure 7-11 illustrates adjustment locations on the monitor.

The alignment of the monitor does not require resetting of the monitor crystal circuits, for such settings are factory-performed and rarely require additional attention in the field. If certain crystal circuits do deviate from frequency, receiver distortion will result on those channels associated with the crystal circuits. Table 7-5 lists data for aligning the crystal circuits of the monitor, if such a need is indicated. The crystal capacitor-trimmer for each crystal is located beneath the associated crystal holder. All capacitor-trimmers must be at least two turns from the minimum capacity position after adjustment. If this condition cannot be met, the crystal or crystals must be replaced.

2. I-F VIDEO - AUDIO CHASSIS.—Table 7-6 lists alignment data for the i-f video - audio chassis. Remove the coupling cable between the r-f head and the i-f video - audio chassis. Connect a signal generator, capable of producing the required frequencies, to jack J301. Figure 7-12 illustrates adjustment locations of the i-f video - audio chassis.

3. R-F HEAD.—With figure 7-13 as reference, align the r-f head as follows:

a. Set channel frequency to 225.0 megacycles. Tune inductor L202 until index mark is aligned with TRIM mark.

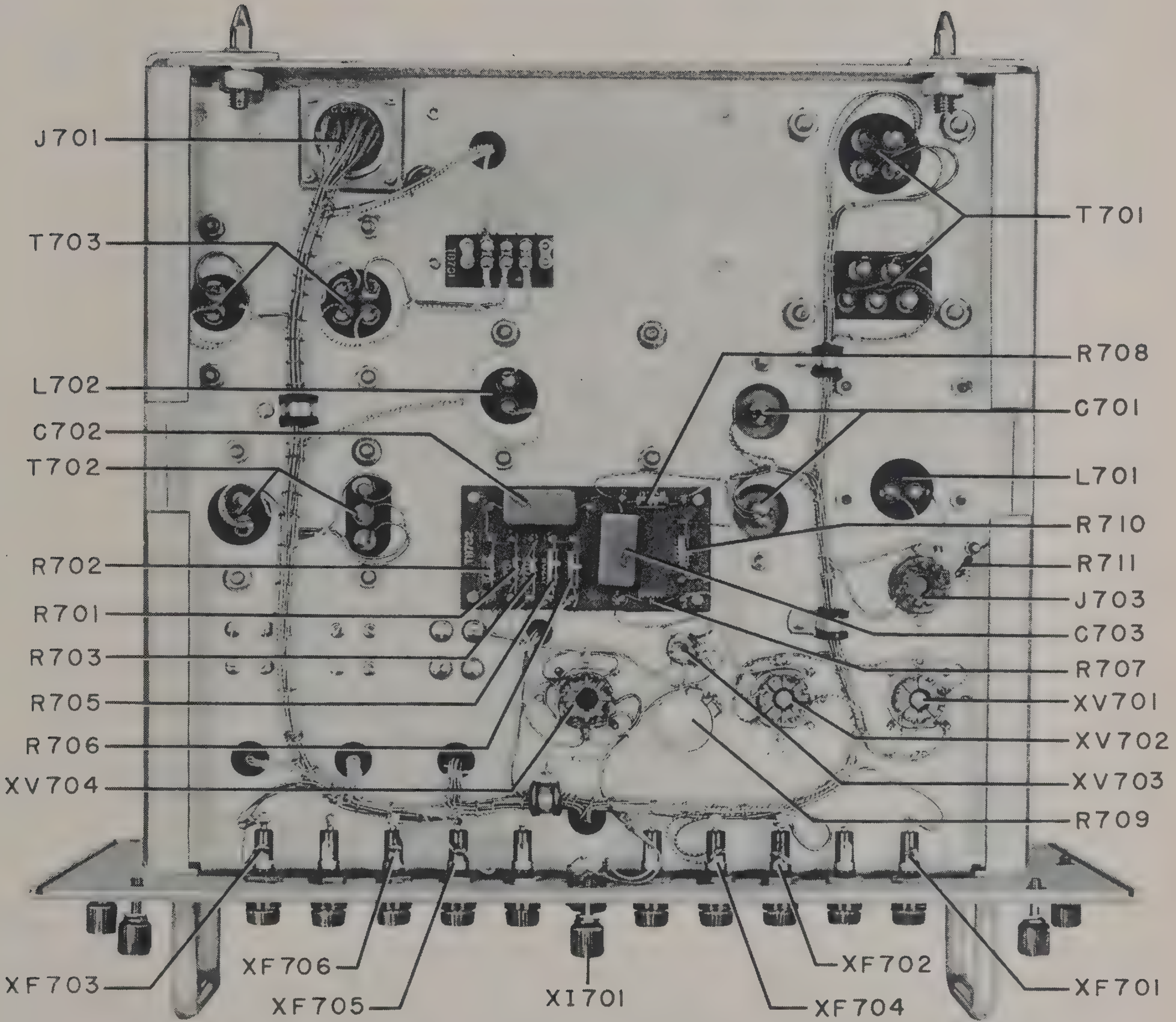


Figure 7-4. Power Supply PP-556/URD-4, Components Location

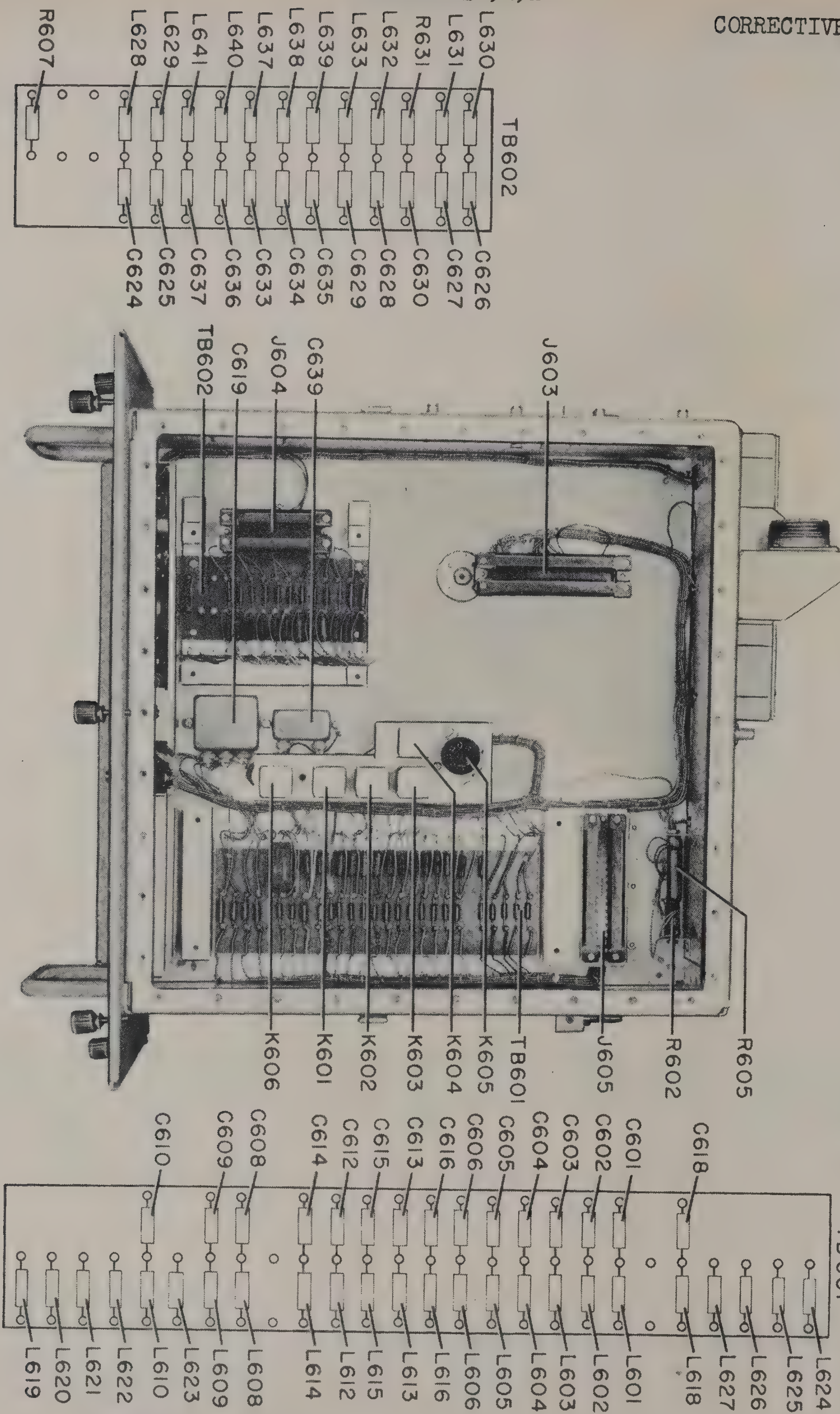


Figure 7-5. Receiver Frame, Components Location

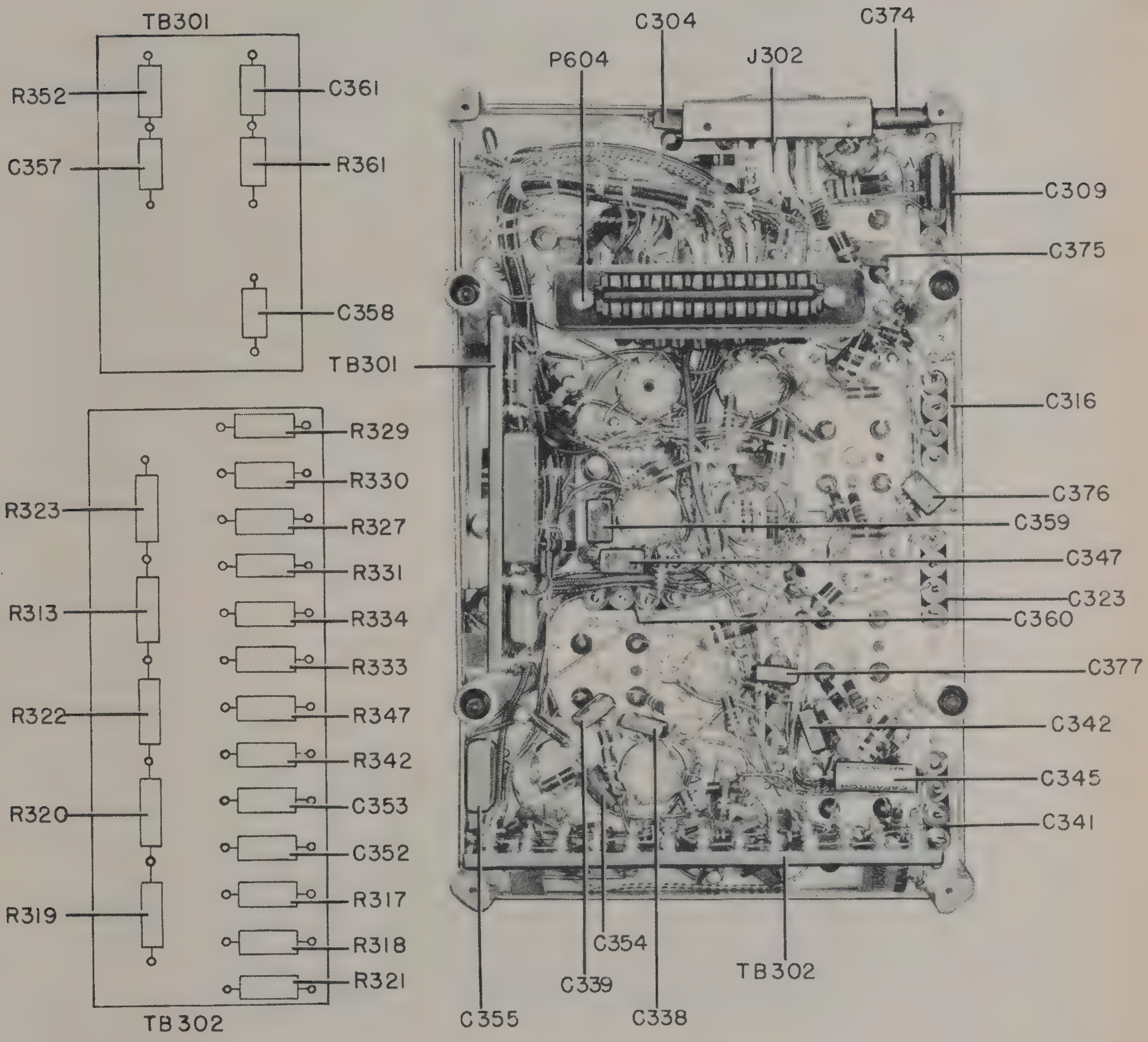


Figure 7-6. I-F Video-Audio Chassis, Components Location
(Sheet 1 of 2 Sheets)

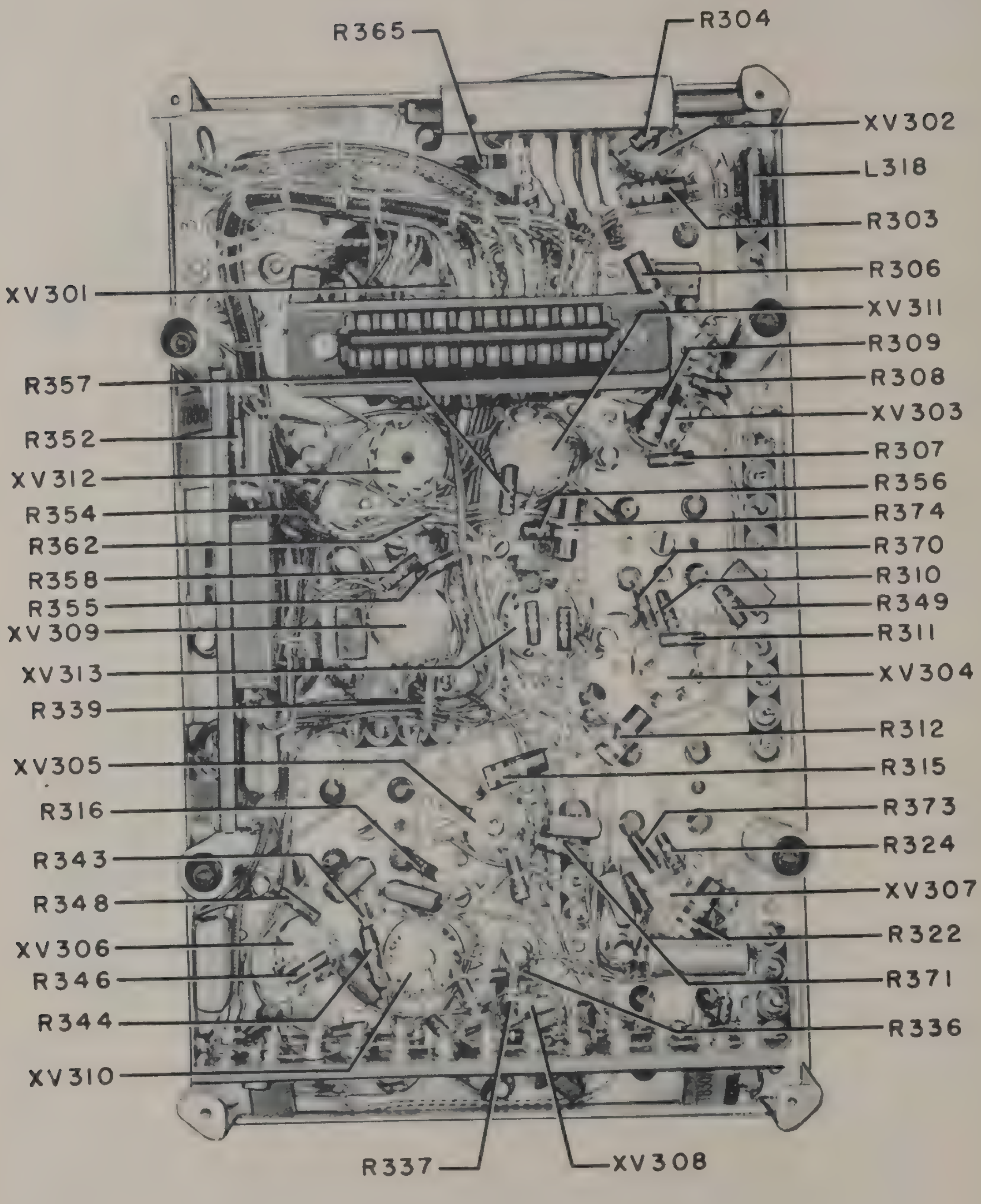


Figure 7-6. I-F Video-Audio Chassis, Components Location
(Sheet 2 of 2 Sheets)

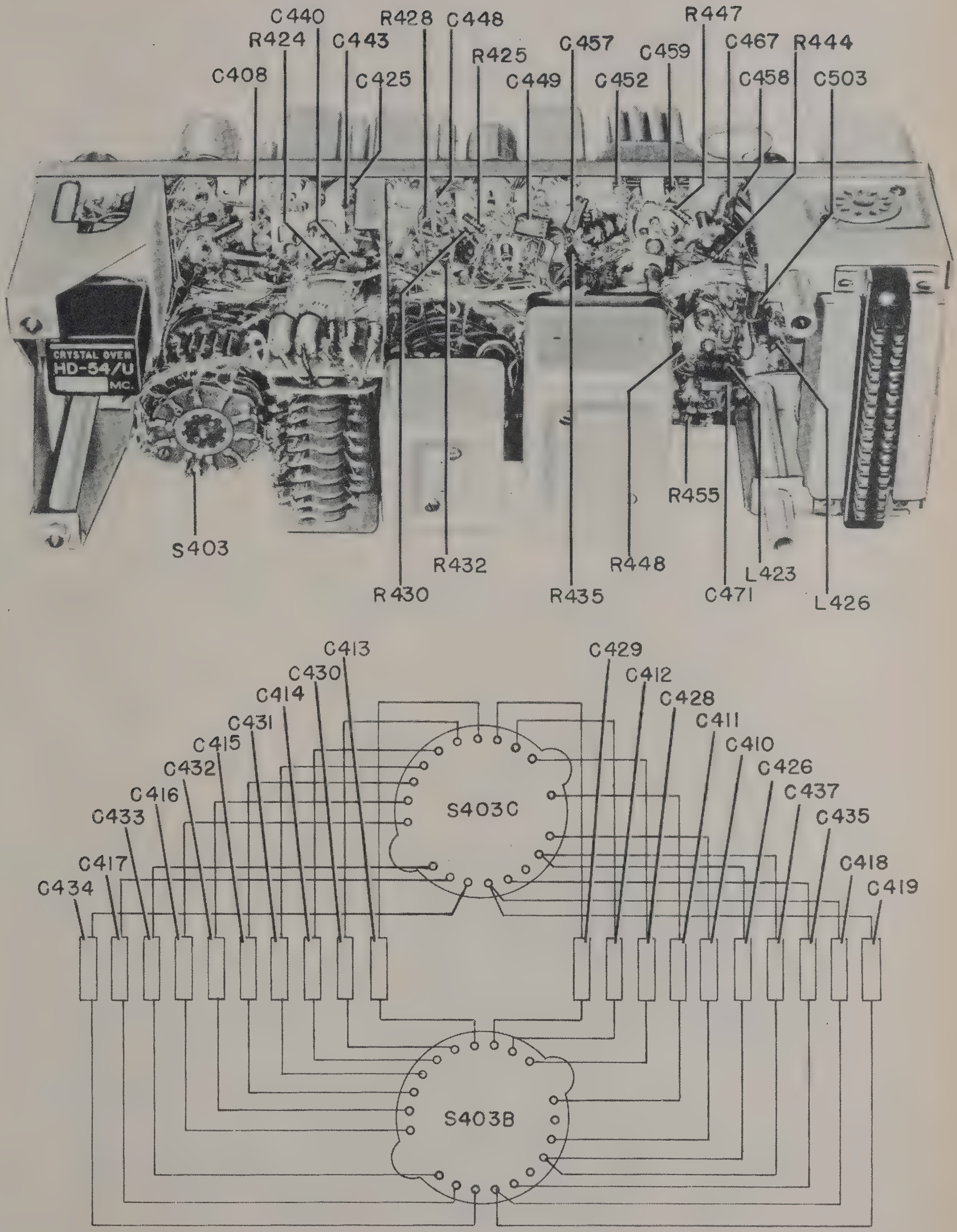


Figure 7-7. Monitor, Components Location
(Sheet 1 of 2 Sheets)

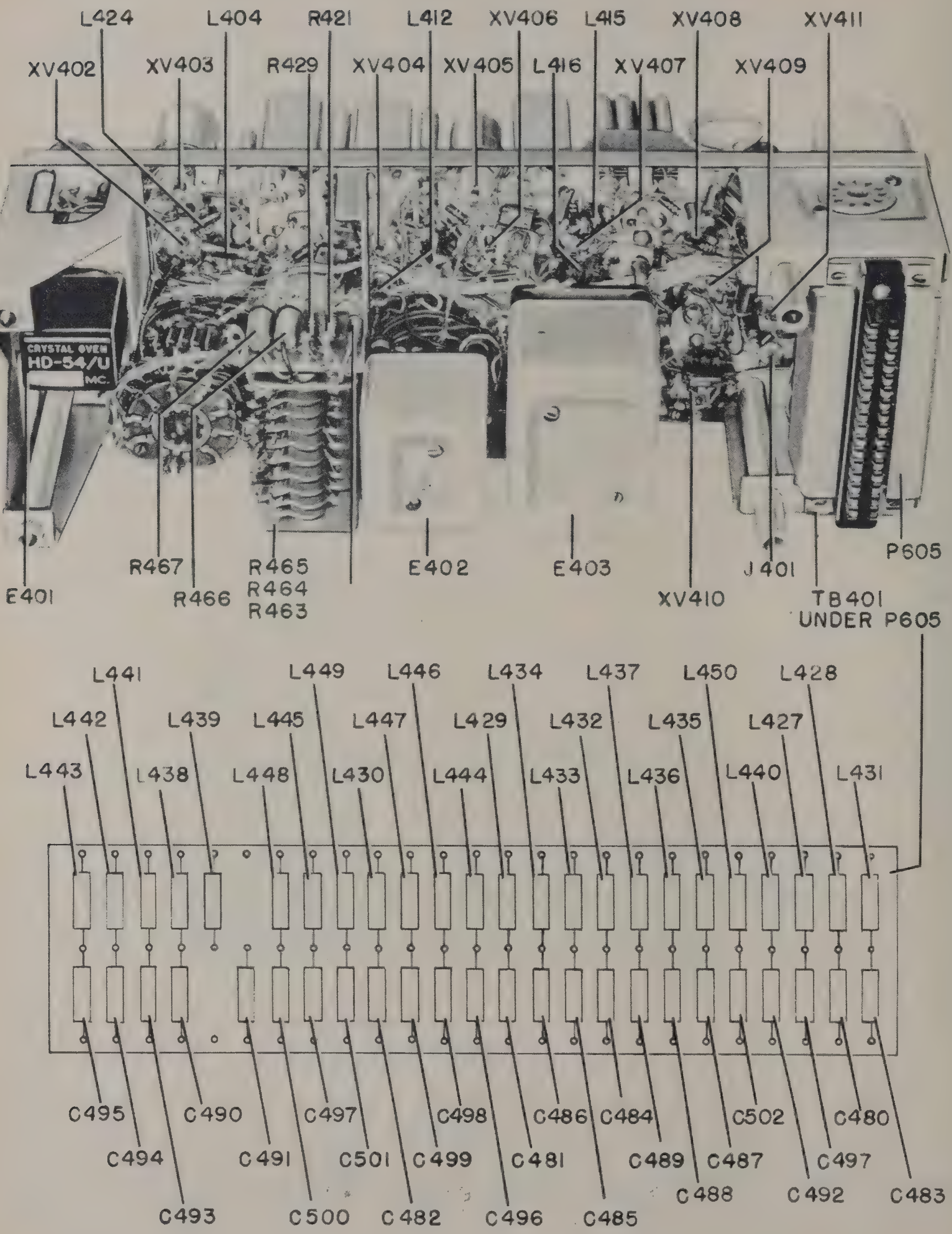


Figure 7-7. Monitor, Components Location
(Sheet 2 of 2 Sheets)

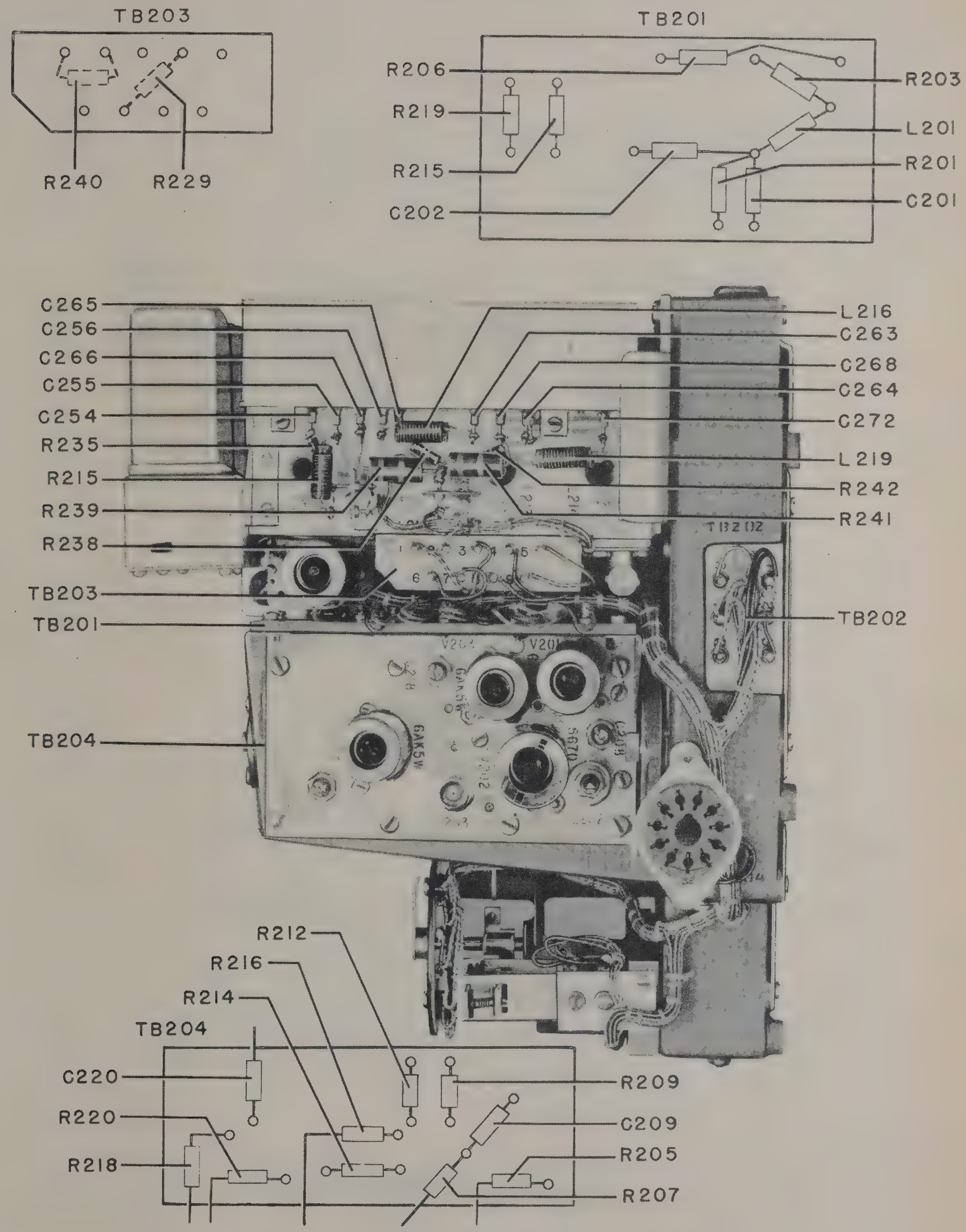


Figure 7-8. R-F Head, Components Location
(Sheet 1 of 2 Sheets)

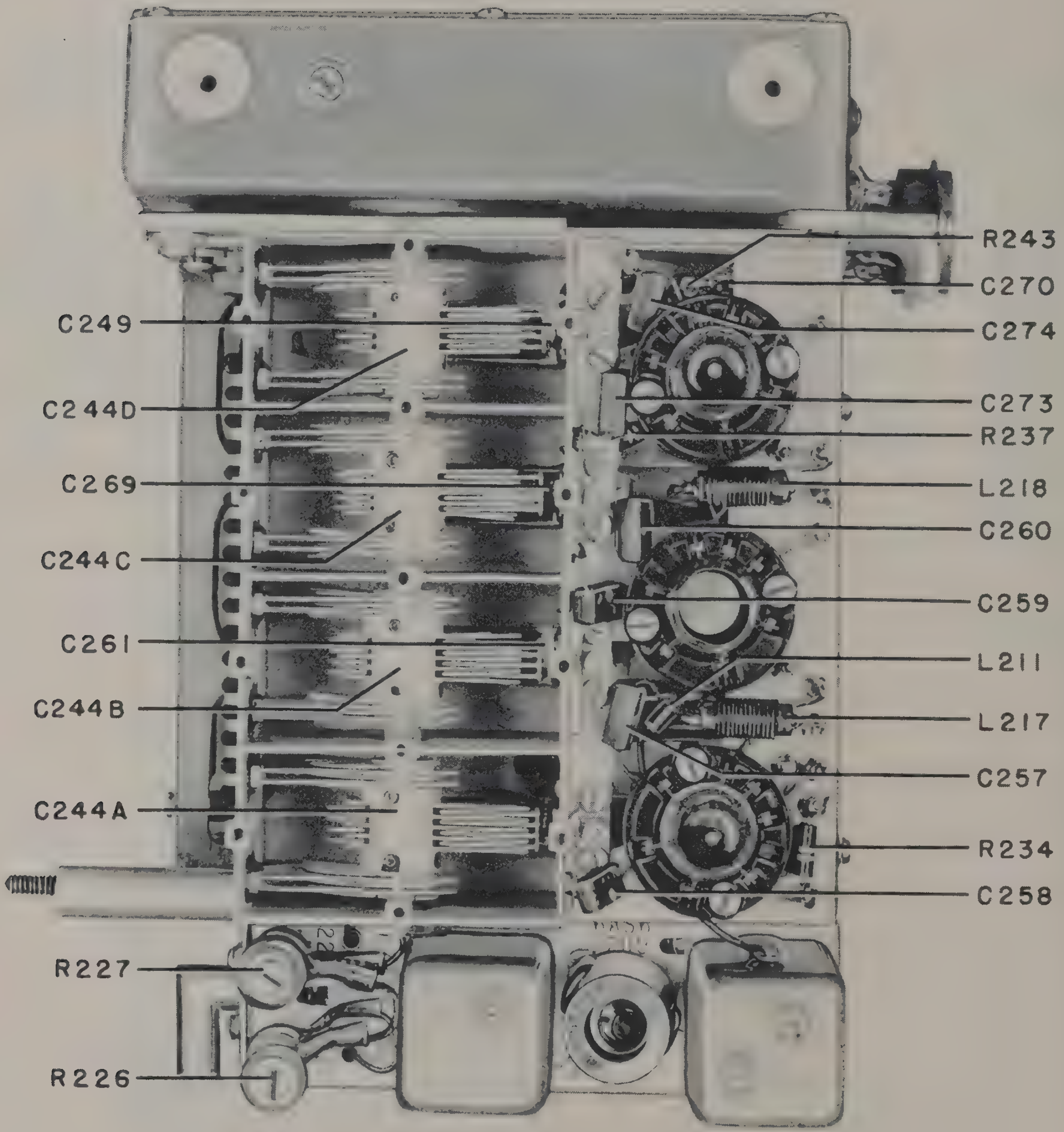


Figure 7-8. R-F Head, Components Location
(Sheet 2 of 2 Sheets)

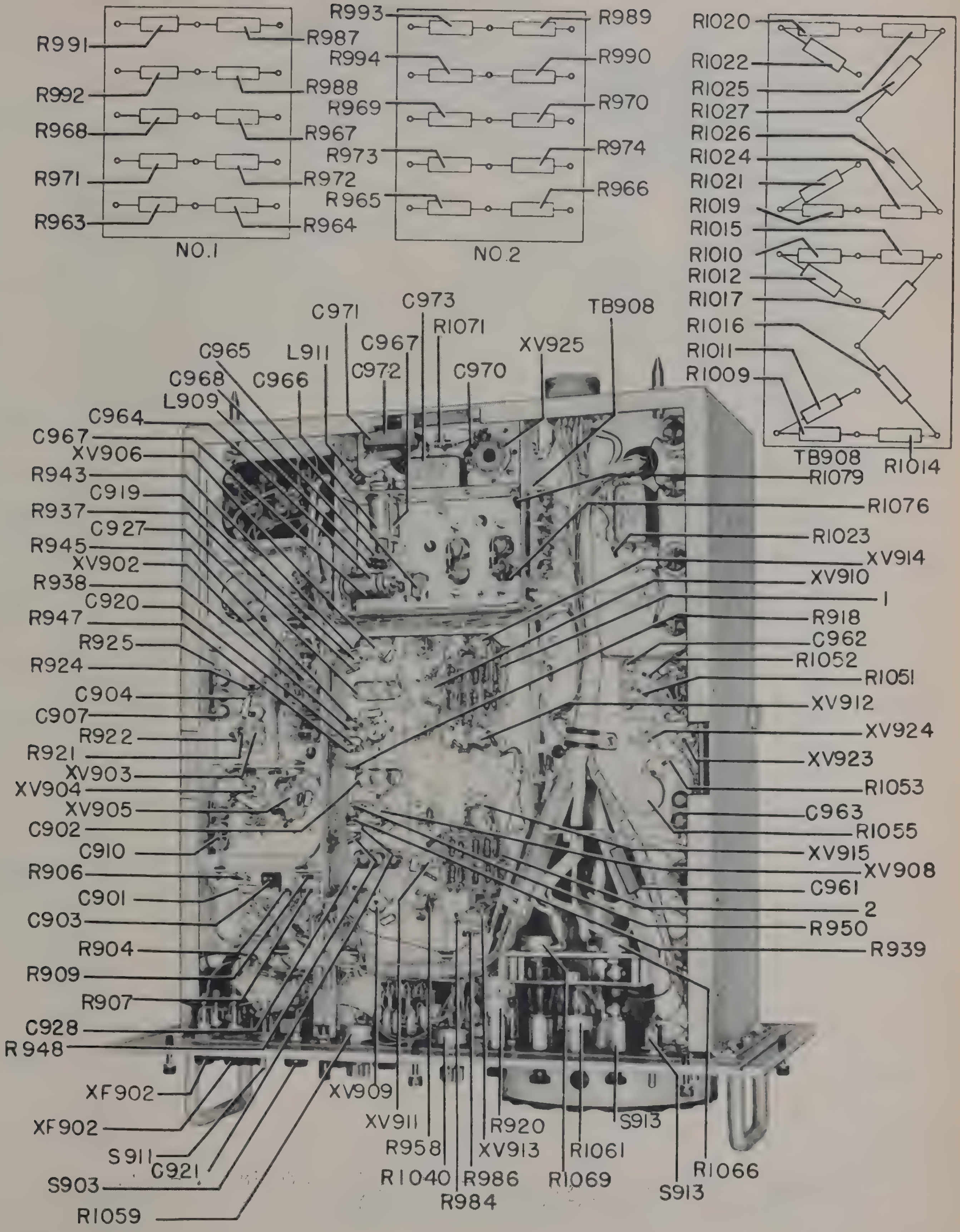


Figure 7-9. Azimuth Indicator IP-93/URD-4, Components Location
(Sheet 1 of 2 Sheets)

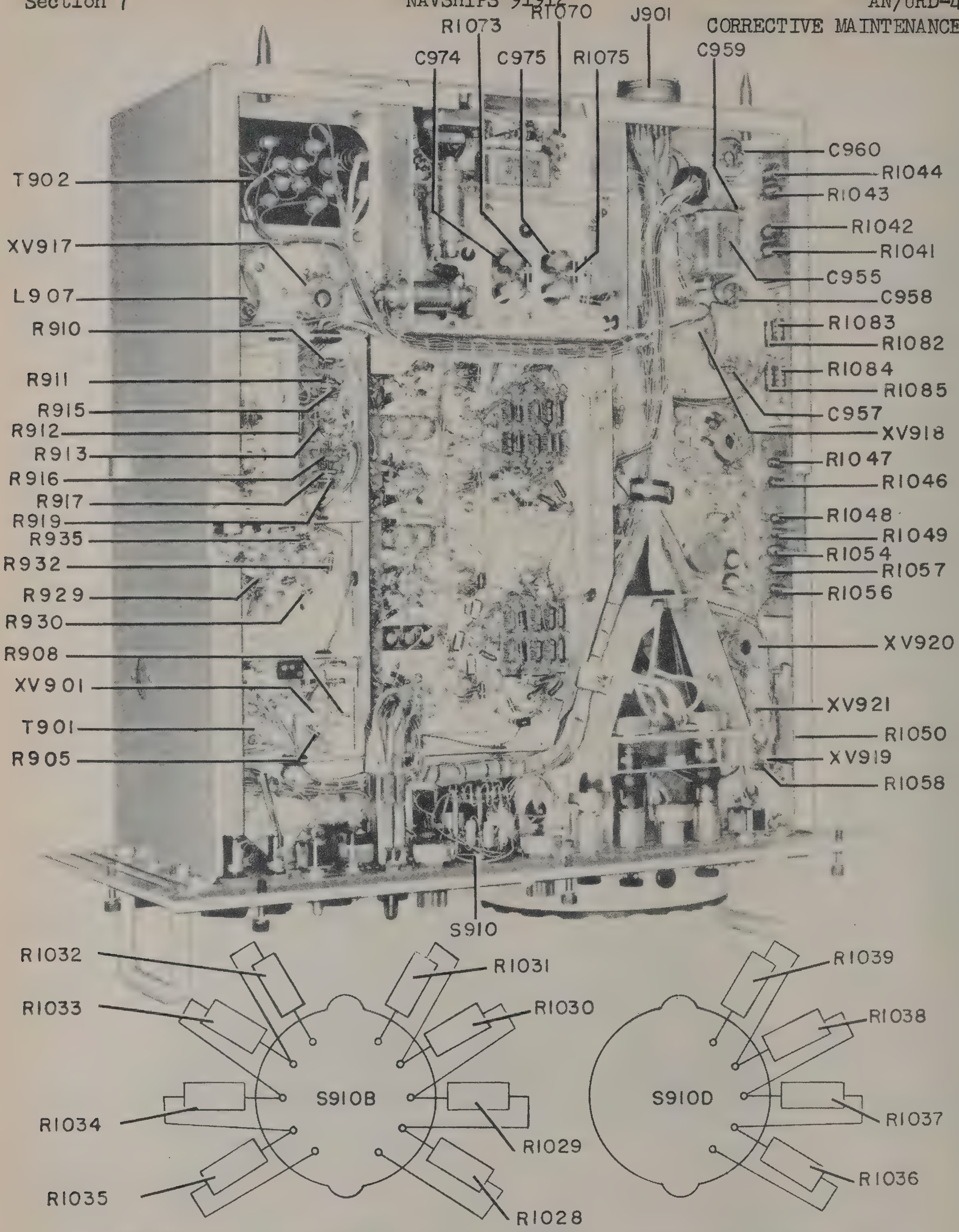


Figure 7-9. Azimuth Indicator IP-93/URD-4, Components Location
(Sheet 2 of 2 Sheets)

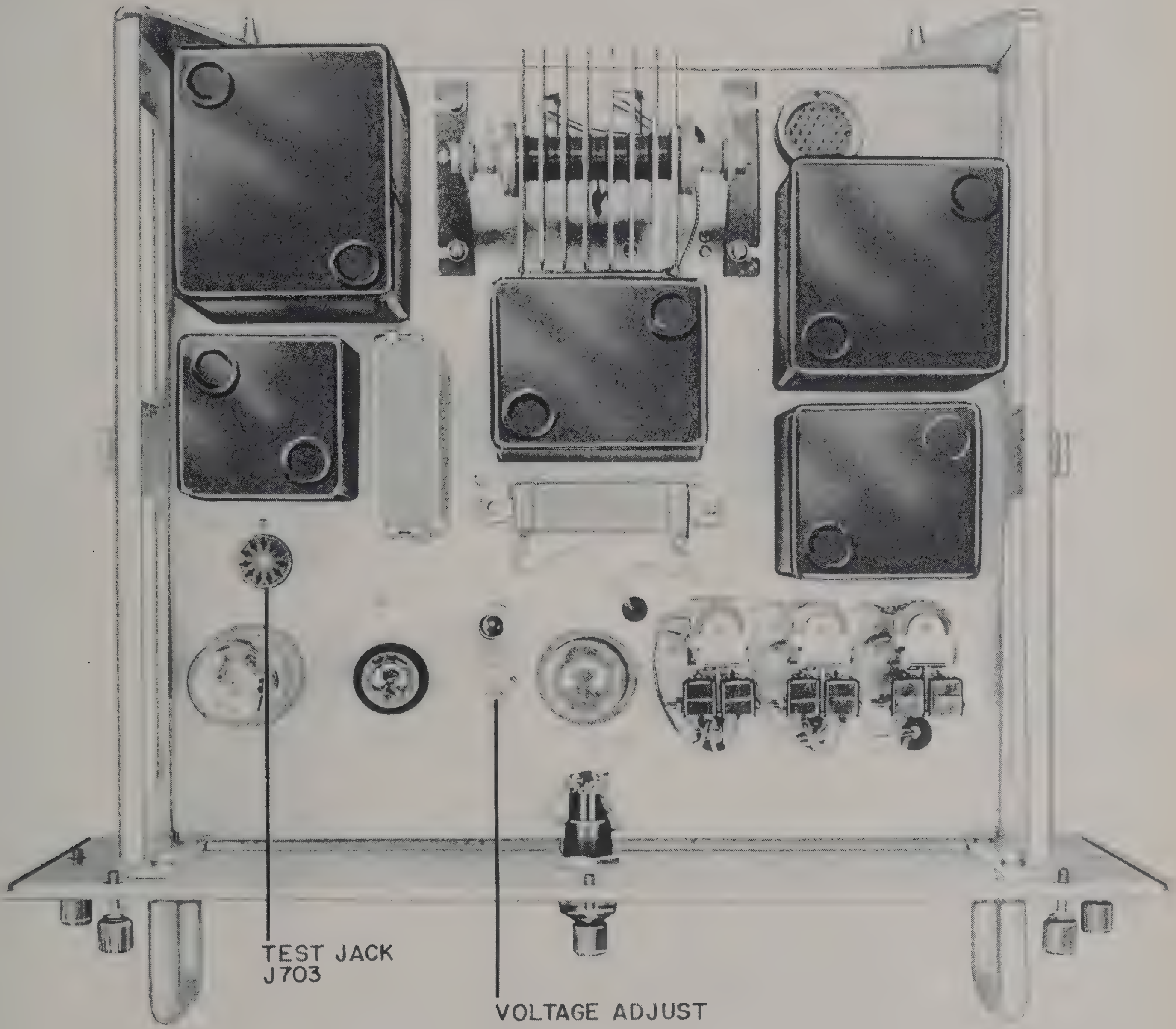


Figure 7-10. Power Supply PP-556/URD-4, Adjustments Location

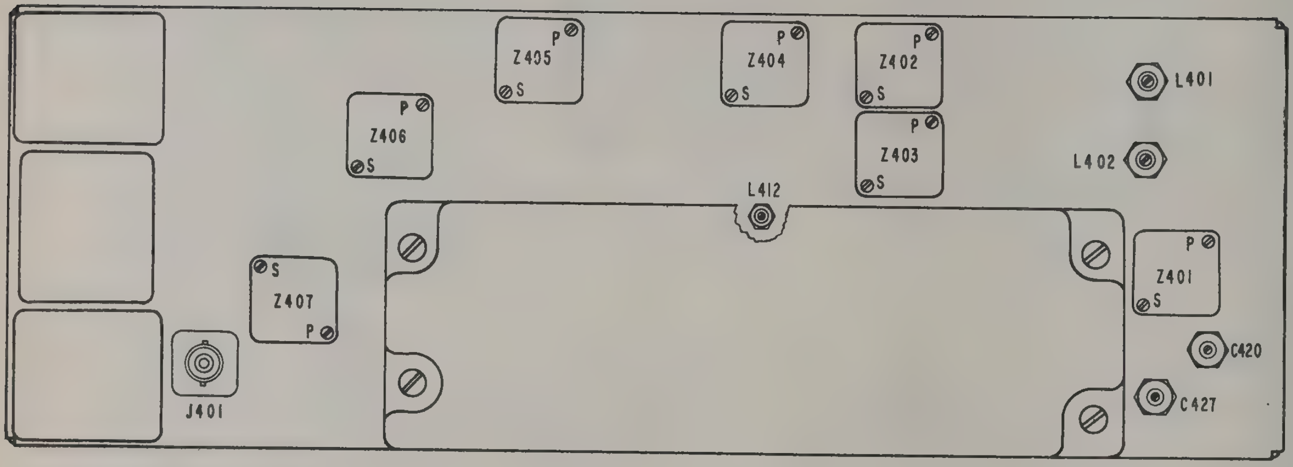


Figure 7-11. Monitor, Adjustments Location

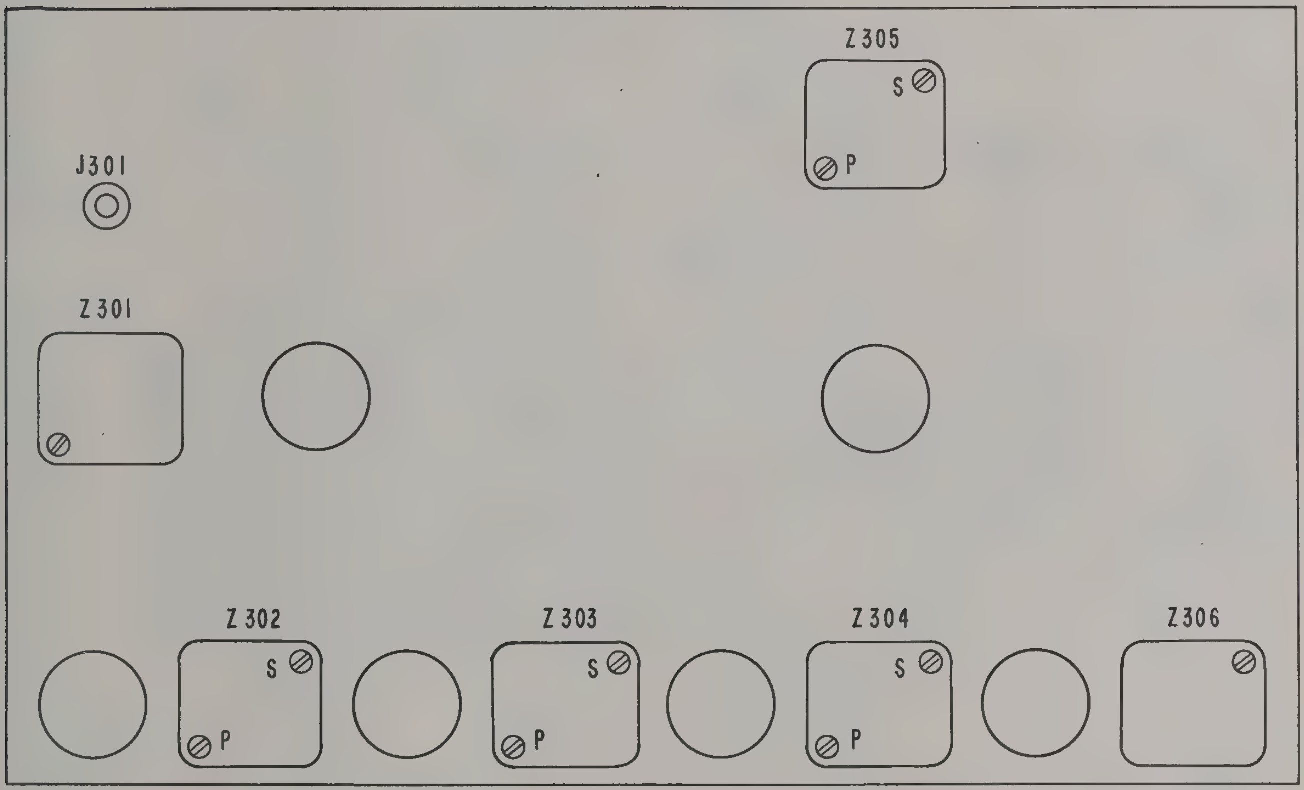


Figure 7-12. I-F Video - Audio Chassis, Adjustments Location

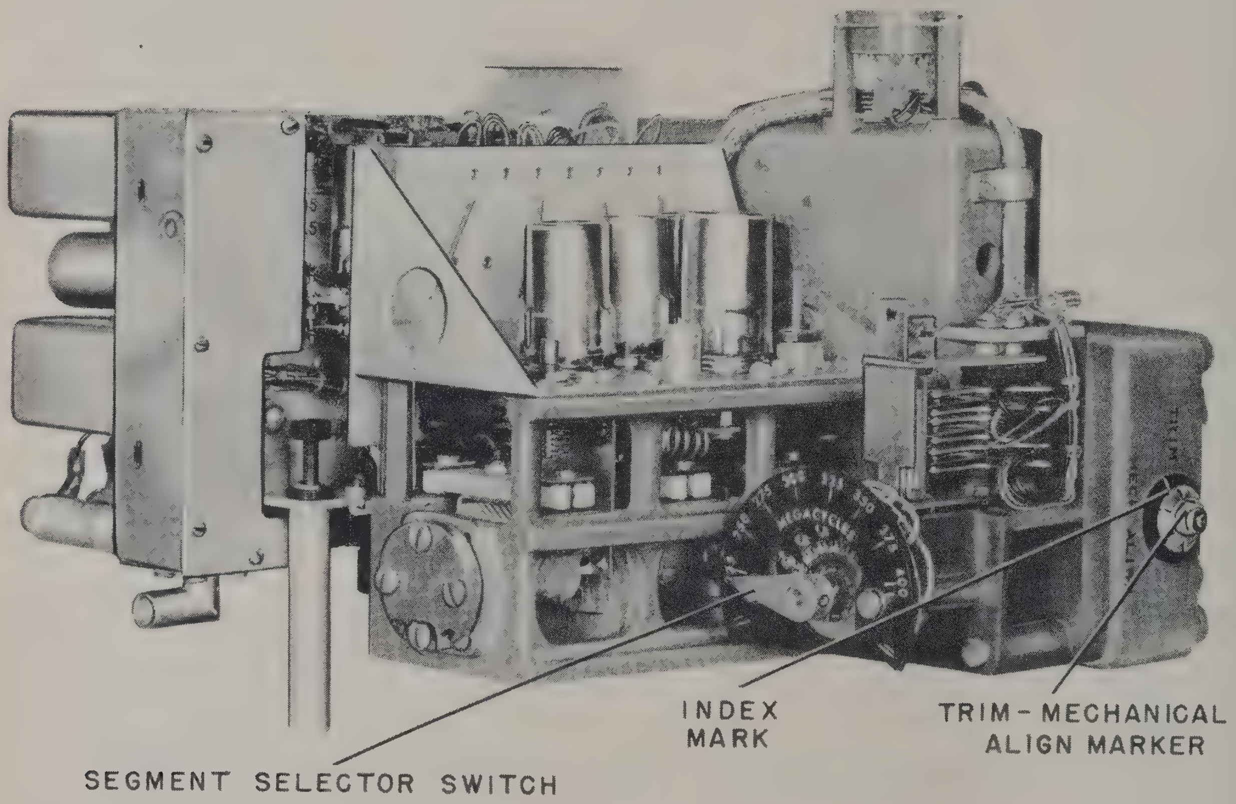


Figure 7-13. R-F Head, Adjustments Location
(Sheet 1 of 3 Sheets)

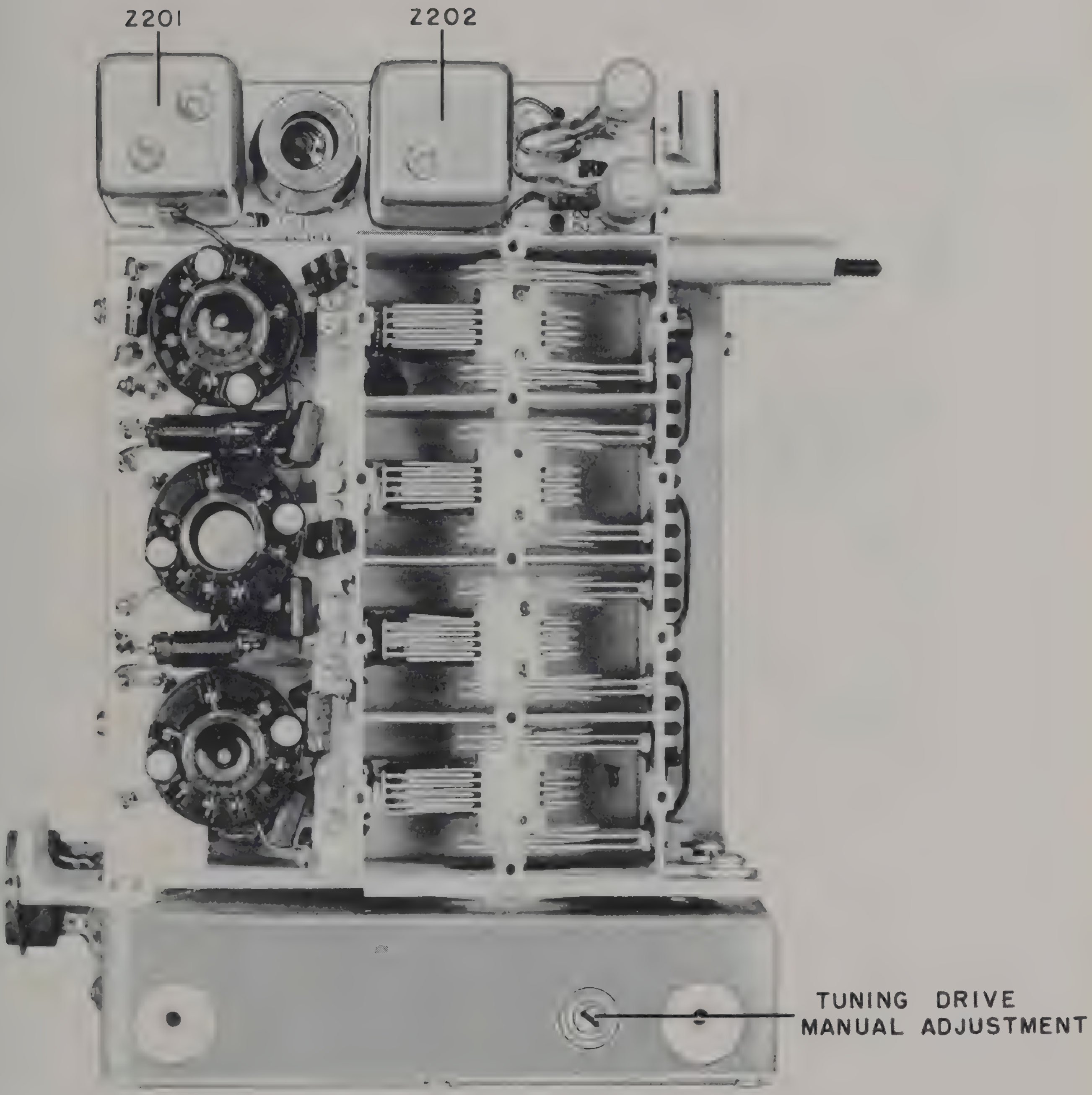


Figure 7-13. R-F Head, Adjustments Location
(Sheet 2 of 3 Sheets)

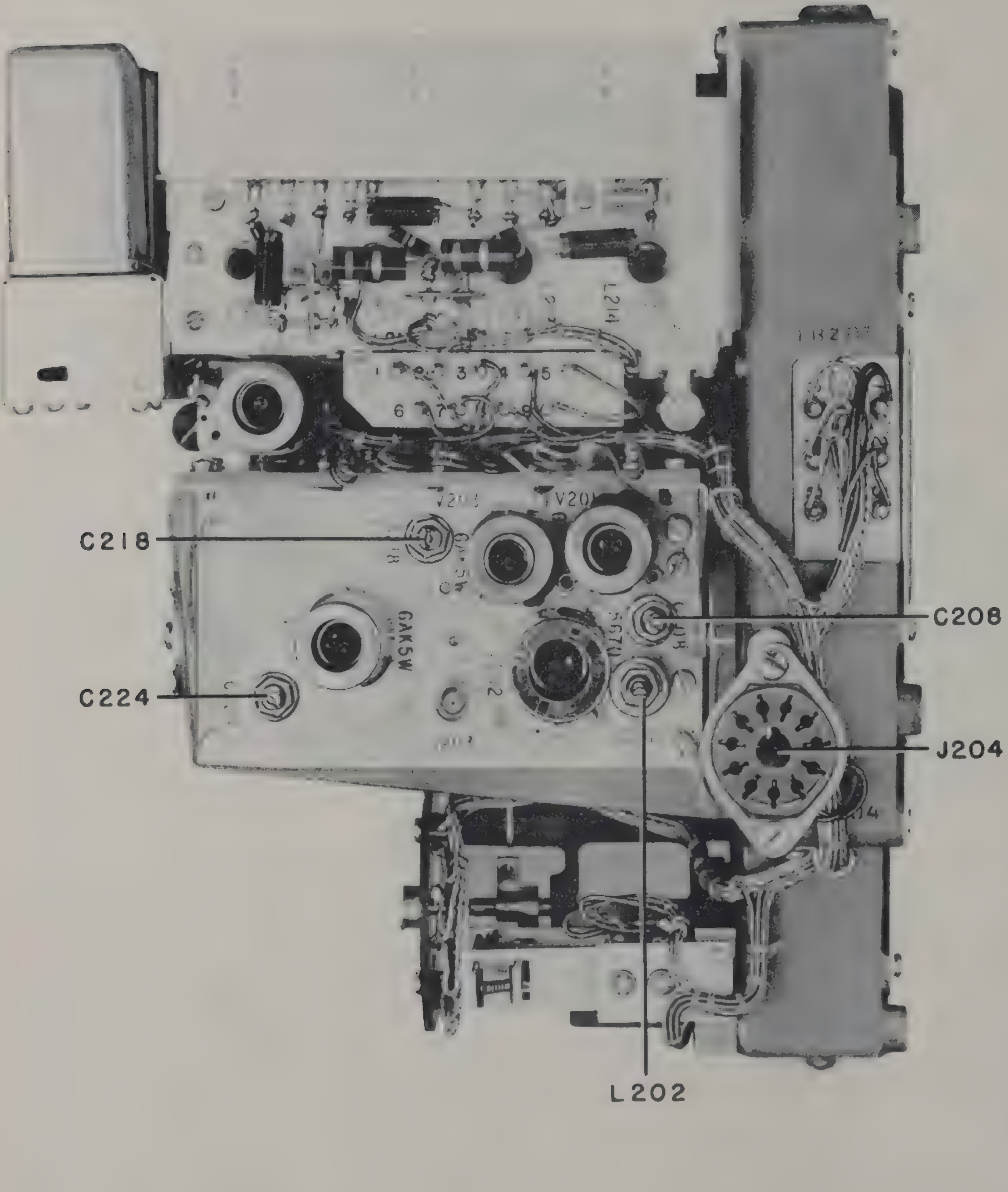


Figure 7-13. R-F Head, Adjustments Location
(Sheet 3 of 3 Sheets)

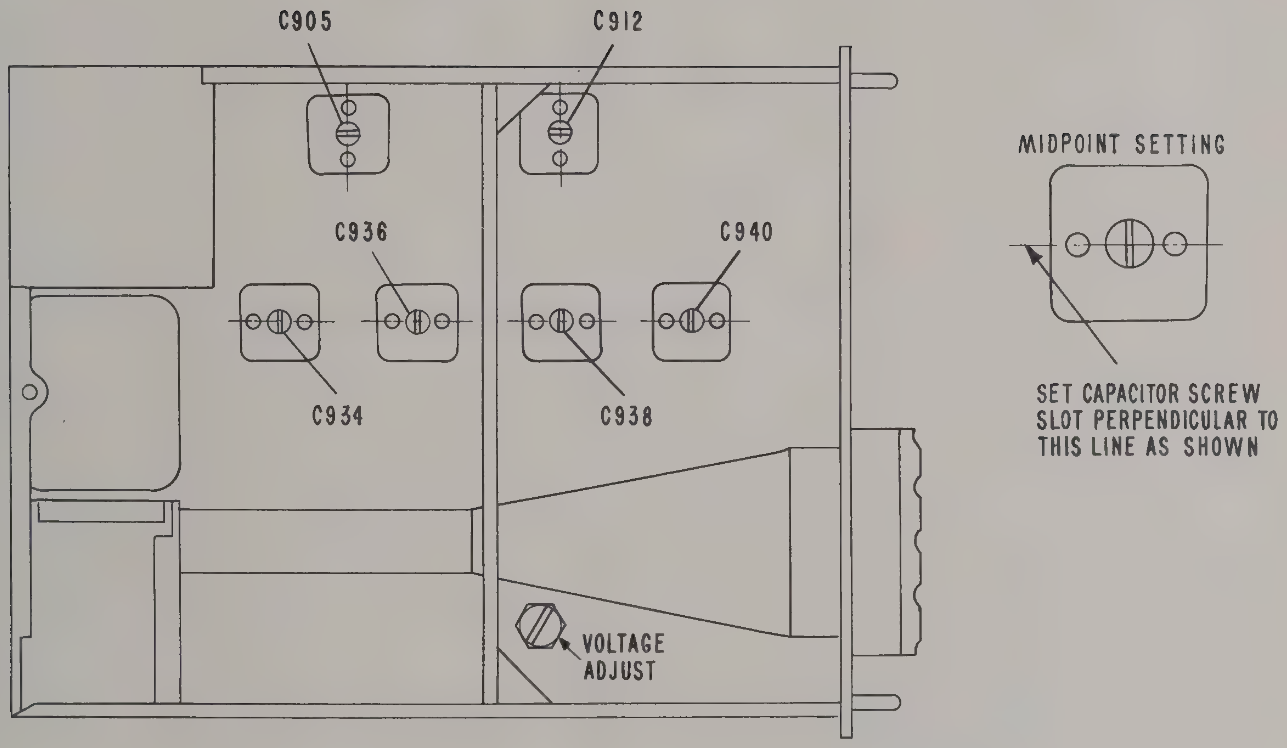
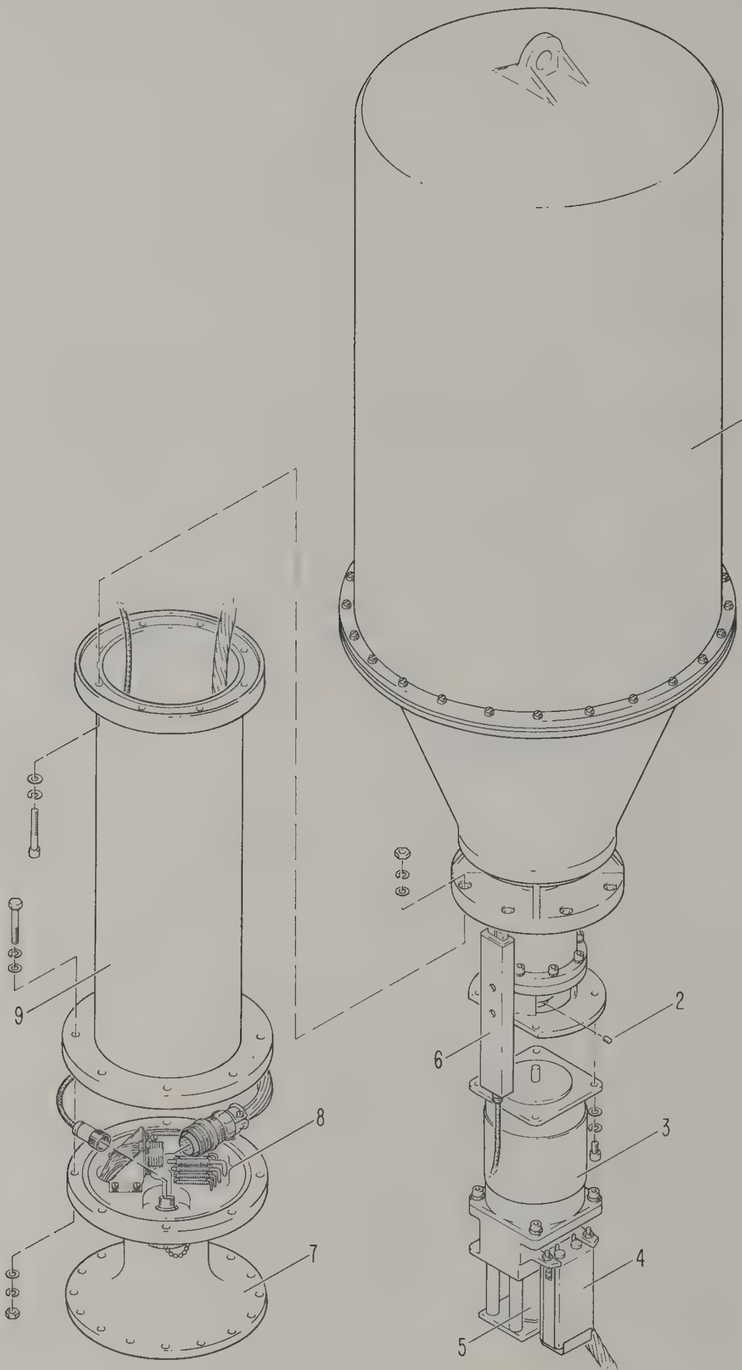

C905
C912
C936
C940
C934
C938
VOLTAGE ADJUST
MIDPOINT SETTING
SET CAPACITOR SCREW SLOT PERPENDICULAR TO THIS LINE AS SHOWN

Figure 7-14. Azimuth Indicator IP-93/URD-4, Adjustments Location



1 Radome	6 Balun
2 Setscrew	7 Base casting
3 Antenna drive motor	8 Bristol wrenches
4 Capacitor C103	9 Motor-alternator housing
5 Alternator	

Figure 7-15. Antenna AS-514/URD-4, Disassembly

b. Set channel frequency to 399.9 megacycles. Tune capacitor C208 until index mark is aligned with TRIM mark.

c. Repeat steps a. and b. to refine adjustments.

d. Connect eleven-pin probe of test set to jack J204. Set meter selector switch to position 4.

e. Set channel frequency to 399.9 megacycles. Tune capacitors C218 and C224 for maximum indication on test set meter.

(c) AZIMUTH INDICATOR IP-93/URD-4.—Figure 7-14 illustrates indicator adjustment locations. Align the indicator as follows:

1. Connect the eleven-pin probe of the test set to jack J905. Set meter selector switch of the test set to position 3.

2. Adjust VOLTAGE ADJUST control for 92 divisions on test set meter.

WARNING

> The slotted capacitor-trimmer shafts carry high voltage. Use the insulated tuning wrench supplied or a non-metallic screwdriver to make adjustments on these shafts.

3. Set all screwdriver and push-to-turn controls to their mid-points. Set VERTical and HORIZontal controls (2 and 3, figure 4-1) to their mid-point settings. Set capacitors C905, C912, and C940 to their mid-point settings.

4. Set CALIBRATE-SENSE switch (17) to center position.

5. Adjust capacitor C934 for maximum deflection of pattern to left side of cathode-ray tube.

6. Adjust capacitor C936 for maximum deflection of pattern to right side of cathode-ray tube.

7. Adjust capacitor C938 for maximum deflection of pattern toward bottom of cathode-ray tube.

8. Adjust capacitor C940 for maximum deflection of pattern toward top of cathode-ray tube.

9. Adjust capacitor C912 for maximum circle diameter.

(d) PERFORMANCE CHARACTERISTICS.--Performance of the direction finder set as to selectivity, audio response, and automatic gain control is indicated by curves illustrated in figures 7-60, 7-61, and 7-62, respectively.

(2) MECHANICAL ADJUSTMENTS.

NOTE

Bristol wrenches are located in antenna, receiver, and indicator interiors. They are intended to facilitate removal and disassembly of components.

(a) REMOVAL AND REPAIR.

1. ANTENNA AS-514/URD-4.

a. ANTENNA DISASSEMBLY.--Antenna disassembly, illustrated in figure 7-15, is as follows:

(1) Remove the antenna from the mast.

(2) Remove radome (1) by removal of radome attaching screws.

(3) Remove motor-alternator housing by removal of screws attaching housing to the base casting (7), removal of screws at the top of housing, and uncoupling the two receptacles to the base.

(4) Remove the four screws on the flange of the antenna drive motor (3). Pull the antenna drive motor and the attached alternator (5) away from the antenna.

b. TONE WHEEL COIL ADJUSTMENT.--With figure 7-16 as reference, adjust the tone wheel coil as follows:

(1) Disassemble the antenna, using instructions contained in Section 7, paragraph 3b(2)(a)1.a., to expose the tone wheel coil.

(2) Loosen the two screws holding the tone wheel coil.

(3) Position a feeler gauge in the feeler gauge insert and adjust the tone wheel coil approximately 0.015 inch from the tone wheel.

(4) Connect a 600-ohm resistor across terminals 10 and 11 of terminal board TB101 and connect a vacuum tube voltmeter (AN/USM-34

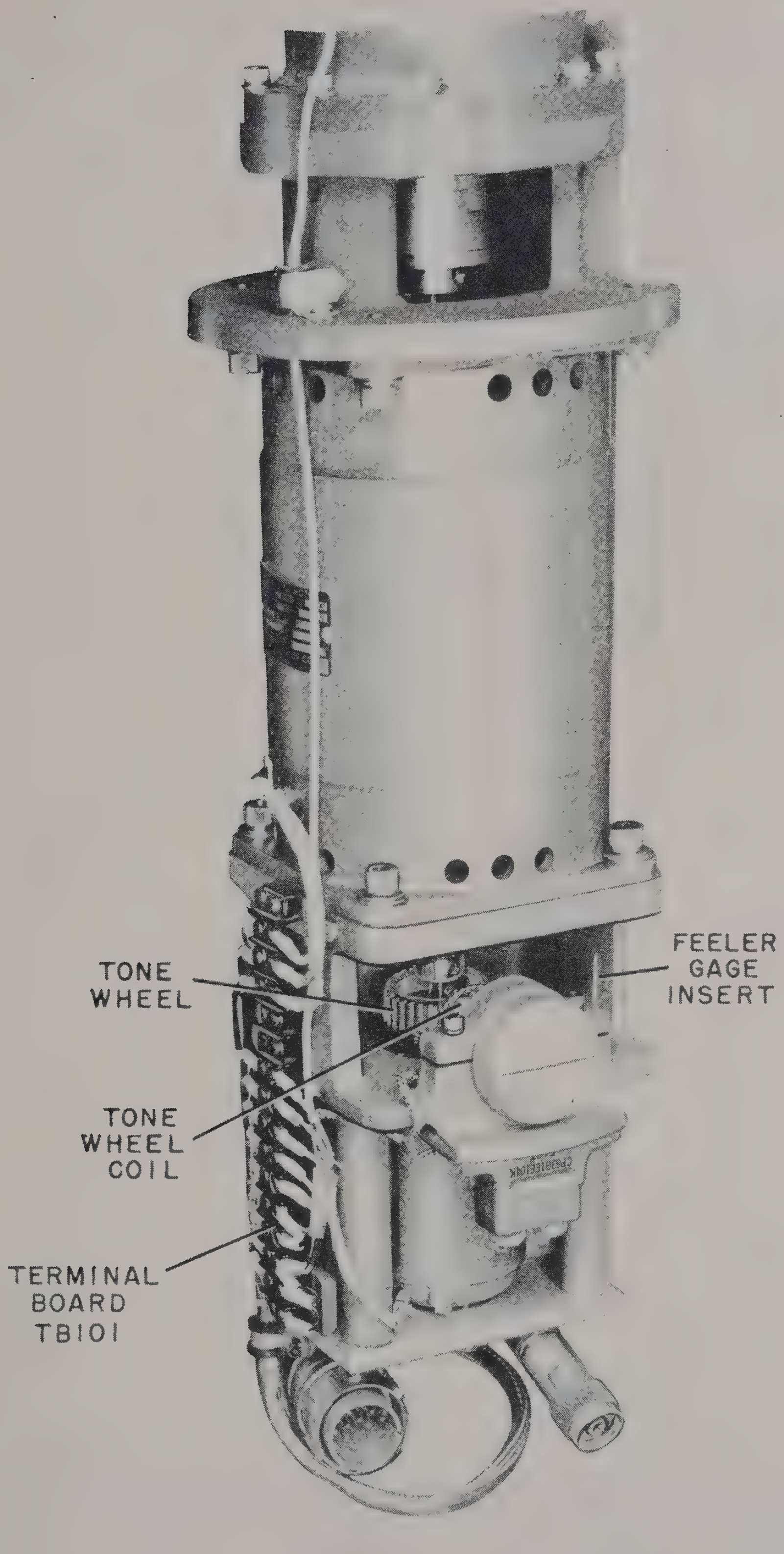
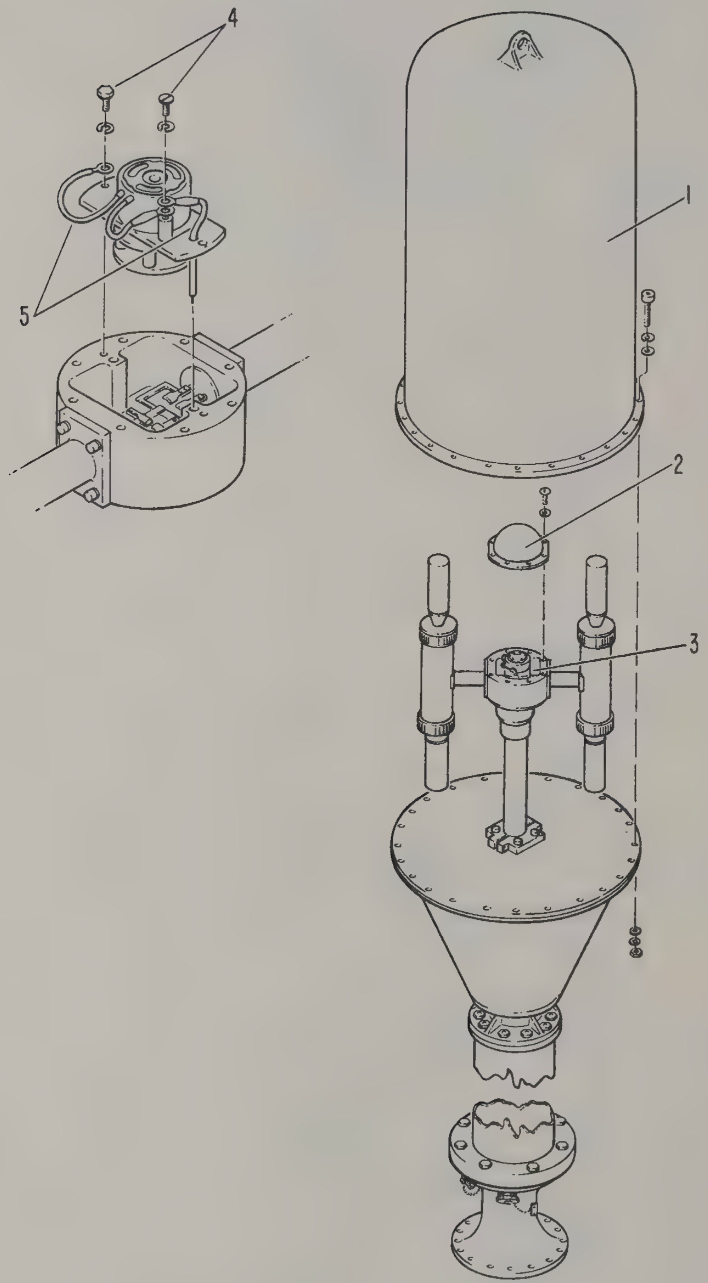
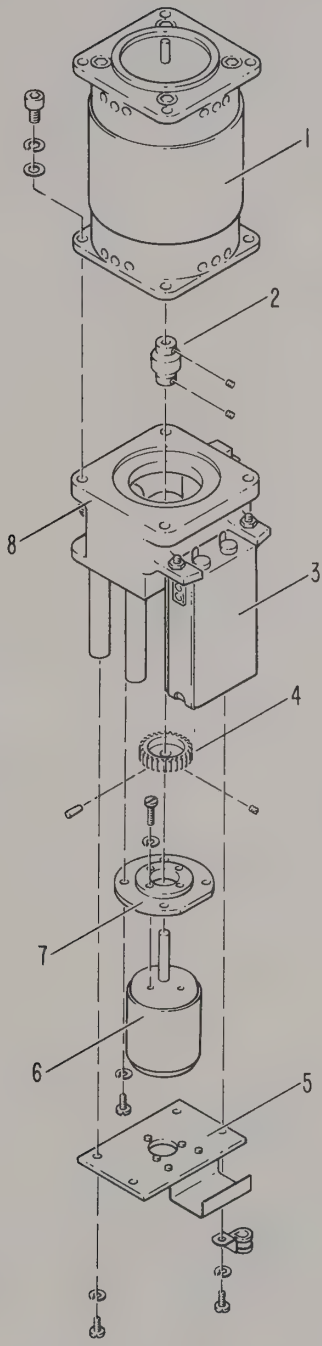


Figure 7-16. Antenna AS-514/URD-4, Tone Wheel Coil Adjustment



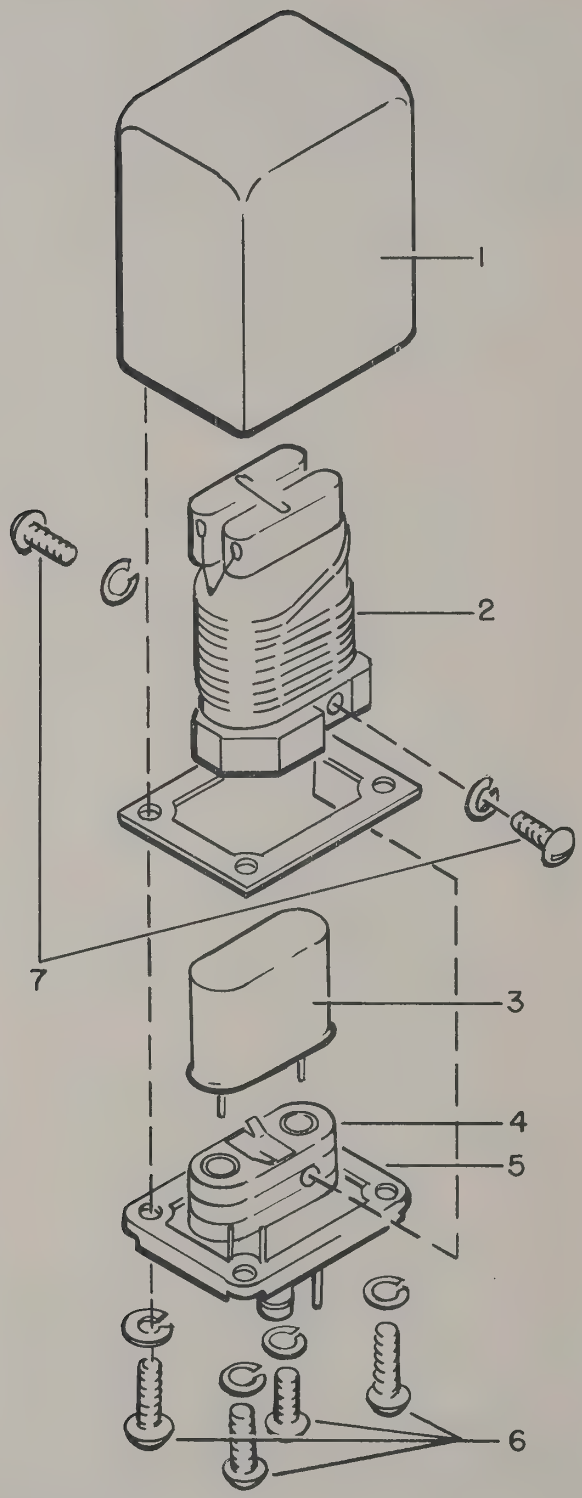
1 Radome
2 Cap
3 Sense Relay
4 Screws
5 Leads

Figure 7-17. Sense Relay, Removal



1 Antenna drive motor	5 Mounting plate
2 Coupling	6 Alternator
3 Capacitor C103	7 Flange
4 Tone wheel	8 Mounting base

Figure 7-18. Antenna Drive Disassembly



1	Oven crystal	5	Loktal base
2	Oven heater element	6	Cover screws
3	Crystal holder	7	Heater mounting screws
4	Crystal holder socket		

Figure 7-19. Crystal Replacement in Loktal Base Oven

or ME-25/U) across the resistor. The properly adjusted tone wheel coil should produce an a-c voltage of approximately 0.4 volts as the antenna rotates.

(5) Fasten the tone wheel coil into place.

c. SENSE RELAY REMOVAL.--Sense relay removal is illustrated in figure 7-17, and is removed as follows:

(1) Remove the radome (1) of the antenna.

(2) Remove cap (2) shielding the relay by withdrawal of cap screws and lifting the cap away to expose the sense relay (3).

(3) Disconnect leads (5) by withdrawal of screws (4).

(4) Lift sense relay out.

d. ANTENNA DRIVE DISASSEMBLY.--Antenna drive disassembly is illustrated in figure 7-18, and is as follows:

(1) Disassemble the antenna, using instructions contained in Section 7, paragraph 3b(2)(a)1.a., to expose the antenna drive motor.

(2) Drop the mounting plate (5) away from alternator (6) by removal of four screws holding plate in place.

(3) Remove alternator by loosening setscrews holding coupling (2) in place on the alternator shaft.

(4) Remove the four screws holding the antenna drive motor (1) to mounting base (8) and lift antenna drive motor away.

2. RADIO RECEIVER R-353/URD-4.

a. CRYSTAL REPLACEMENT IN MONITOR.

(1) CRYSTAL IN LOKTAL-BASED OVEN.--Figure 7-19 illustrates the crystal and loktal-based crystal oven disassembly. Replace the crystal as follows:

(a) Remove the crystal oven from the loktal-based socket on bottom of the monitor.

(b) Remove the four cover screws (6) in base of oven and lift oven cover (1) from loktal base (5).

(c) Remove oven heater element (2) by loosening the two small heater mounting screws (7) on either side of heater. Pull heater away from crystal holder (3).

(d) Pull crystal holder out of socket (4). The quartz crystal is sealed within the crystal holder. A defective crystal is replaced complete with holder.

(2) CRYSTALS IN MULTIPLE OVENS.--Figure 7-20 illustrates crystal replacement in multiple ovens. Replace crystals as follows:

(a) Remove two cover mounting screws (1) holding oven cover (2). Lift cover away.

(b) Push aside the two spring clips (12) at either end of heater element (4). Remove heater element.

(c) The crystal holders (5), with their sealed-in crystals identified by the symbol numbers on them, are now accessible for removal.

b. MONITOR SELECTOR SWITCH DISASSEMBLY.--Figure 7-21 illustrates the monitor selector switch disassembly. Disassemble the selector switch as follows:

(1) Remove the cover plate over the selector switch in the monitor to expose the drive mechanism.

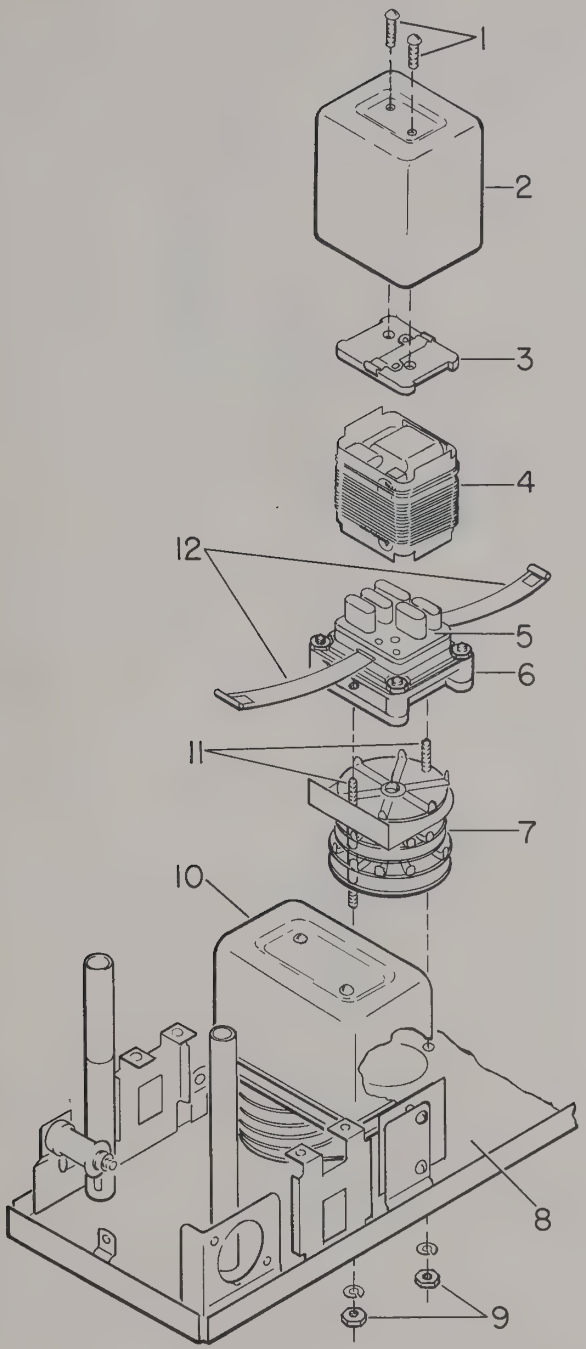
(2) Unsolder leads to the friction clutches (2, 3, and 10), terminal board (5), and drive motor (8).

(3) Individual friction clutches can be removed from the mounting base (4) by withdrawal of screws holding the clutch in place.

(4) Remove the drive motor (8) by withdrawal of mounting screws to the motor mounting flange (9).

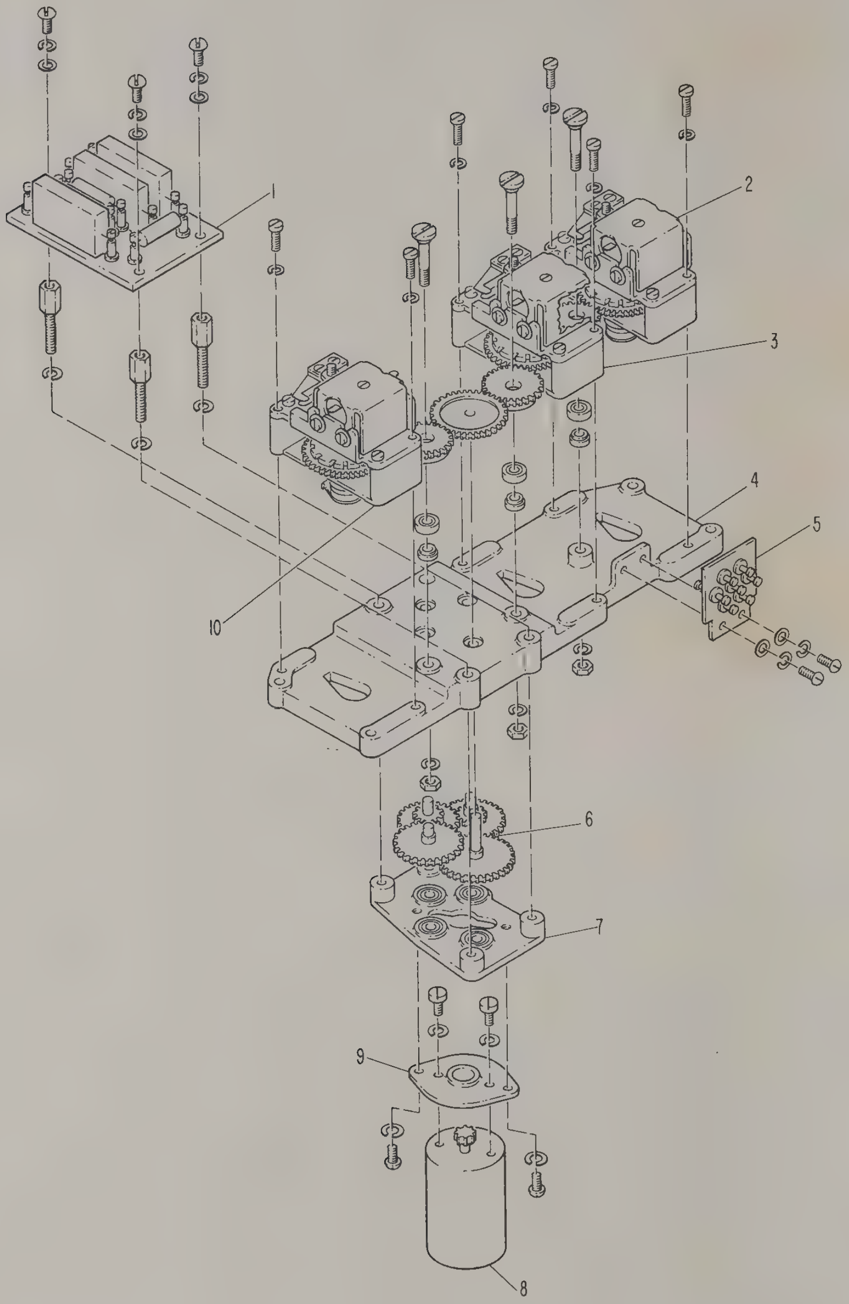
(5) Refer to figure 7-39 for information on rewiring of selector switch.

3. R-F HEAD.--The r-f head consists of, basically, a segment selector switch, a three-gang r-f section, and a receiver cavity assembly--all mounted upon a gear box. Disassembly of the r-f head involves disengagement of these subunits from the tuning drive in the gear box and removal of numerous leads from between the same subunits. Disassemble the r-f head only if such a need is imperative for continuous operation of the equipment.



1 Cover mounting screws
2 Oven cover
3 Heater cover
4 Heater element
5 Crystal holders
6 Oven base assembly
7 Selector switch assembly
8 Monitor chassis
9 Mounting nuts
10 Multiple oven
11 Switch mounting screws
12 Spring clips

Figure 7-20. Crystal Replacement in Multiple Oven



1 Spark suppression assembly
2 Friction clutch
3 Friction clutch
4 Mounting base
5 Terminal board
6 Reduction gear train
7 Bearing plate
8 Drive motor
9 Motor mounting flange
10 Friction clutch

Figure 7-21. Monitor Selector Switch Disassembly

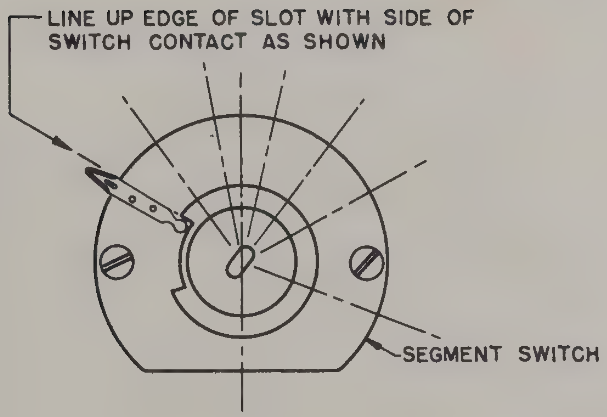
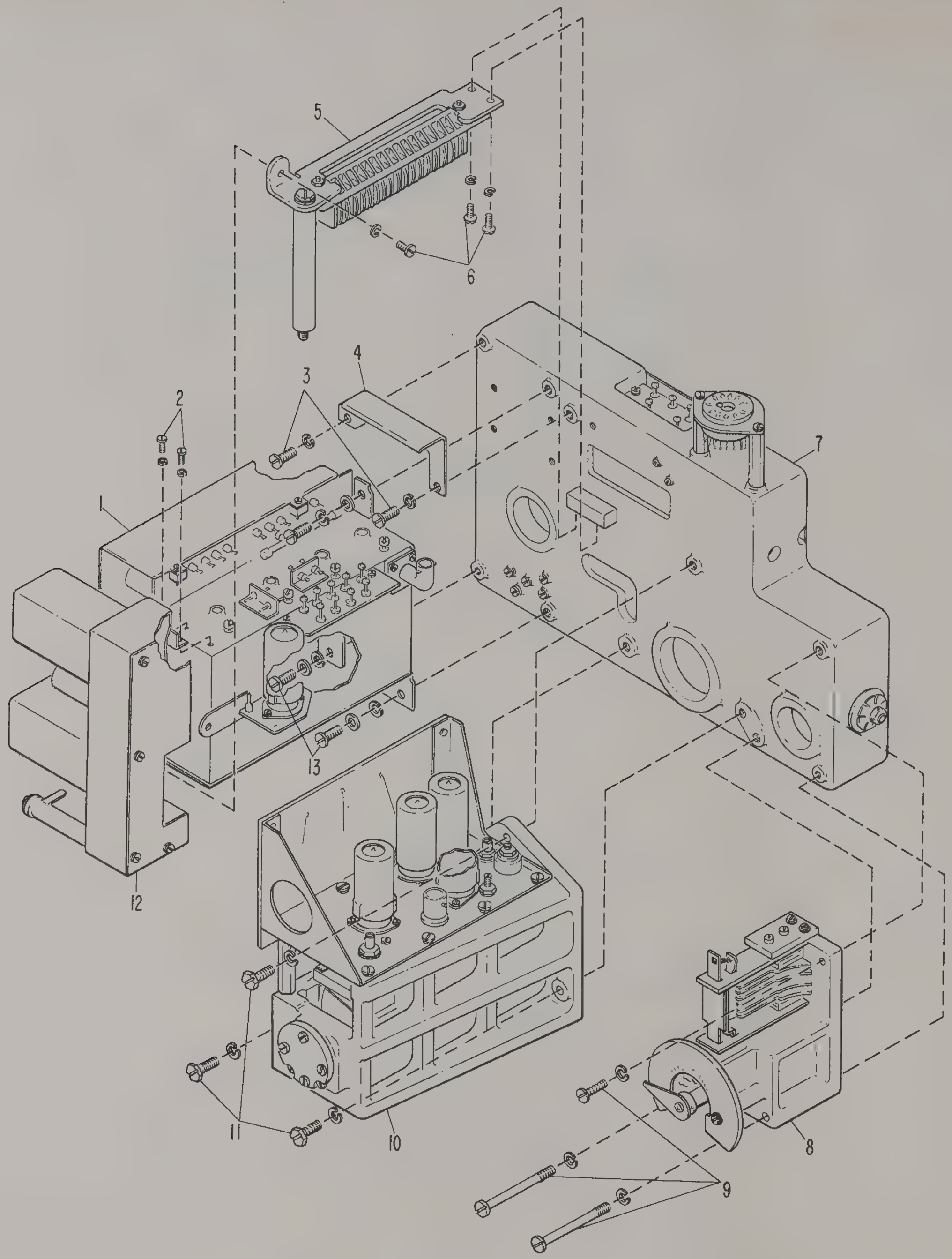


Figure 7-22. Setting Segment Selector Switch



1 Receiver cavity assembly	8 Segment selector switch
2 I-F chassis mounting screws	9 Segment selector switch mounting screw
3 Handle mounting screws	10 R-F section - 3 gang
4 Handle	11 R-F section - 3 gang mounting screws
5 Plug P603	12 I-F chassis
6 Plug P603 mounting screws	13 Receiver cavity assembly mounting screws
7 Gear box	

Figure 7-23. R-F Head Disassembly

a. R-F HEAD SUBUNITS.

(1) SEGMENT SELECTOR SWITCH.--Remove and replace segment selector switch as follows:

(a) Remove all leads connected to the segment selector switch (8, figure 7-23).

(b) Remove the segment selector switch mounting screws (9) and pull the switch away from the gear box.

(c) Refer to figure 7-33 for information on rewiring the replacement segment selector switch.

(2) R-F SECTION-THREE GANG.--Remove and replace the r-f head as follows:

(a) Remove all leads connected to r-f section-three gang (10, figure 7-23).

(b) Remove r-f section-three gang mounting screws (11) and pull unit away from gear box.

(c) Refer to figure 7-35 for information on rewiring the replacement r-f section-three gang.

(3) RECEIVER CAVITY ASSEMBLY.--Remove and replace the receiver cavity assembly as follows:

(a) Remove all leads connected to the receiver cavity assembly (1, figure 7-23).

(b) Remove receiver cavity assembly mounting screws (13) and handle mounting screws (3).

(c) Pull receiver cavity assembly away from gear box.

(d) The i-f chassis (12) can be removed from the receiver cavity assembly by withdrawal of i-f chassis mounting screws (2).

(e) Plug P603 (5) can be removed from the receiver cavity assembly by removal of plug P603 mounting screws (6).

(f) Refer to figure 7-34 for information on rewiring the replacement receiver cavity assembly.

b. TUNING DRIVE COMPONENTS.--Tuning drive components removal is illustrated in figure 7-24. Remove and replace the tuning drive as follows:

(1) Remove mounting screw (5) to release tuning drive motor (7) and reduction unit speed assembly (6). Remove leads to tuning drive motor.

(2) Remove retaining ring (15) and ball bearing (14) from end of main shaft assembly (16).

(3) Withdraw taper pin (2) from knurled nut (1).

(4) Remove knurled nut, spring washer (3), indicator pointer (4), flat washer (18), and ball bearing (17) from end of main shaft.

(5) Remove mounting screws (8 and 11) holding main shaft assembly (16) to gear box (9).

(6) Disengage clutches of clutch relays K201, K202, and K203 (10, 12, and 13) from gears of main shaft assembly.

(7) Pull main shaft assembly out of gear box.

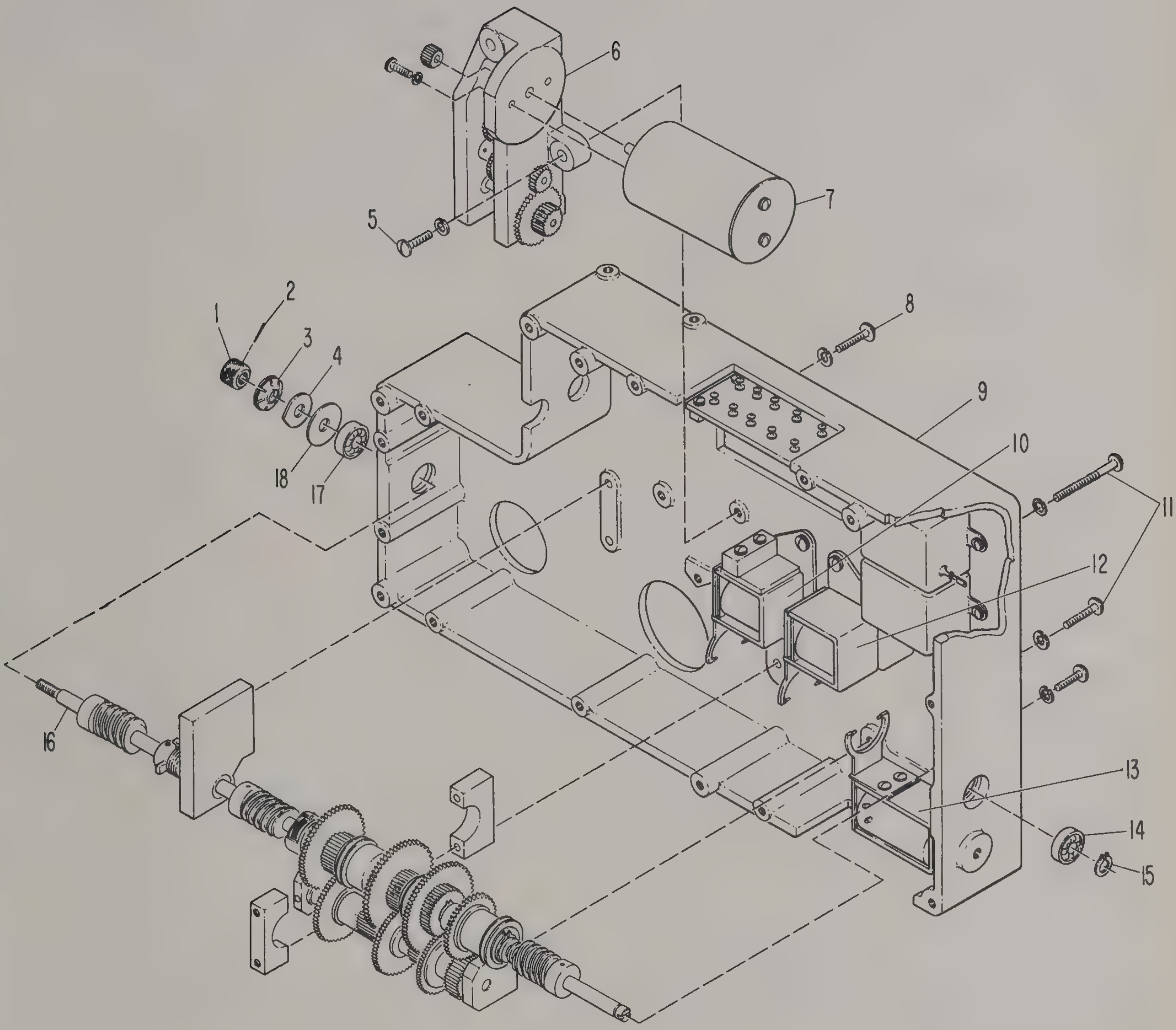
(8) Remove clutch relays K201, K202, and K203 by withdrawal of mounting screws holding relays to gear box. Remove all leads to clutch relays.

(9) In replacing main shaft assembly (16) in gear box with a new unit, coat gears and bearings with thin coat of MIL-G-3278 grease.

(10) With main shaft assembly in place, turn knurled nut (1) to meet spring washer (3), then turn knurled nut two turns further, plus or minus one-quarter turn, before replacing taper pin (2).

(11) Refer to figure 7-33 for information pertaining to rewiring of tuning drive components.

(12) Rotate the main shaft assembly completely counterclockwise, by means of the tuning drive manual adjustment (figure 7-13) [viewed from the TRIM-MECH ALIGN marker (figure 7-13)] until all of the mechanical stops are engaged. Then rotate the main shaft assembly clockwise approximately one and one-quarter turns until the index mark is on MECH ALIGN.



1 Knurled nut
2 Taper pin
3 Spring washer
4 Indicator pointer
5 Mounting screw
6 Reduction unit speed assembly
7 Tuning drive motor
8 Mounting screw
9 Gear box
10 Clutch relay K201
11 Mounting screws
12 Clutch relay K202
13 Clutch relay K203
14 Ball bearing
15 Retaining ring
16 Main shaft assembly
17 Ball bearing
18 Flat washer

Figure 7-24. Tuning Drive Components Removal

(13) Rotate shaft of segment selector switch until pointer on switch is under the first mark beneath the 225 as illustrated in figure 7-13. Set the switch rotor in line with the switch contact as illustrated in figure 7-22.

(b) MAINTENANCE AND ADJUSTMENTS.—All motors contained in the direction finder set are provided with sealed bearings, thus requiring no periodic maintenance. Refer to Section 6 for information pertaining to items requiring periodic lubrication.

All necessary adjustments for the equipment are listed in Section 7, paragraphs 3b(1) and 3b(2). Relays are factory-adjusted, and except for spring tension, no attempt at adjustment should be made in the field.

The two cabinets of the direction finder set are provided with air cleaner elements, located behind the cabinet louvres. Inspect the elements every 500 hours of equipment operation, oftener if operational site is in dust-ladened atmosphere. Dirt in the meshes of the cleaner can be removed by, first, gently tapping the element, causing most dirt to drop away, and second, by immersing the element in a solvent such as perchlorethylene (Federal Specification O-T-236) to remove remaining dirt. Replace dirt-encrustated elements which do not respond to cleaning treatment; otherwise, impeded air will prevent proper cabinet ventilation.

(3) COMPONENT CHARACTERISTICS.

(a) ELECTRON TUBES.

NOTE

All tubes of a given type supplied with the equipment shall be consumed prior to employment of tubes from general stock.

The use of a tube checker as a means of testing electron tubes is not to be taken as final disposition of the worth of the tube. Substitution of known good tubes for tubes suspected to be faulty is the best means of checking tube performance. Table 7-7 lists operating voltage for tubes employed in the direction finder set. Table 7-8 lists rated tube characteristics for the same tubes.

TABLE 7-7. TUBE OPERATING VOLTAGES*

TUBE TYPE	FUNCTION	PLATE (E)	SCREEN (E)	SUPP. (E)	CATH. (E)	GRID (E)	HEATER (E) A-C
5R4WGY	Rectifier	450 ac 450 ac			350 350		5.0
5R4WGY	Rectifier	540 ac 540 ac			460 460		5.0
6AS6	3rd mixer	195	120	0.05	2.45	0	6.3
6AS6	4th mixer	192	122	0.05	9.5	0	6.3
6AS6	Crystal oscillator	65	65	65	0	-3.2	6.3
6AS6	2nd mixer	155	155	0.85	4.3	0	6.3
6AS6	1st i-f amplifier	130	130	2.05	2.05	-0.05	6.3
6AS6	2nd i-f amplifier	128	128	2.3	2.3	0	6.3
6AS6	3rd i-f amplifier	145	145	2.9	2.9	0	6.3
6AS6	AGC i-f amplifier	130	130	0	2.9	0	6.3
6AS6	Regulator-amplifier	165	292	107	107	100	6.3
6AS6	Carrier oscillator	150	150	-2.1	4.6	0	6.3
6AS6	First modulator	150	80	-1.2	2.5	0	6.3
6AS6	Horizontal modulator	150	80	0.7	3.5	1.6	6.3
6AS6	Horizontal modulator	150	80	0.9	3.8	1.6	6.3
6AS6	Vertical modulator	150	80	1.2	4.2	1.6	6.3
6AS6	Vertical modulator	150	80	1.0	3.9	1.6	6.3
6AS6	Regulator-amplifier	190	128	0	0	-4.0	6.3
6AS6	First i-f amplifier	140	140	0	1.6	0	6.3
6AS7G	Regulator	330			200	165	6.3
6AS7G	Regulator	450			275	190	6.3
6F4	Mixer	16			0	-1.8	6.3

* All readings taken with meter having sensitivity of 20,000 ohms per volt (AN/PSM-4 or TS-352/U), chassis ground.

TABLE 7-7. TUBE OPERATING VOLTAGES* (Continued)

TUBE TYPE	FUNCTION	PLATE (E)	SCREEN (E)	SUPP. (E)	CATH. (E)	GRID (E)	HEATER (E) A-C
6F4	1st r-f amplifier	85			1.85	0.05	6.3
6F4	2nd r-f amplifier	85			2.15	0.05	6.3
6L6GA	High voltage oscillator	270	180	0	0	-70	6.3
6X4W	Rectifier bias supply	-420			330 ac		6.3
5651	Regulator	87			0		6.3
5654/6AK5W	Reactance control	195	105	8.2	8.2	0	6.3
5654/6AK5W	Frequency tripler	170	130	0	0	-2.0	6.3
5654/6AK5W	Frequency doubler	170	120	0	0	-1.0	6.3
5654/6AK5W	Frequency doubler	107	103	0	0	-3.8	6.3
5654/6AK5W	2nd mixer	162.5	110	0	0	-0.87	6.3
5670	Oscillator-isolation amplifier	192 95			9 0	0 0	6.3
5670	1st oscillator and frequency tripler	160 180			9.2 7.4	0 0	6.3
5670	1st mixer and isolation amplifier	195 190			5.8 3.3	0 0	6.3
5670	Harmonic generator and frequency doubler	17.5 195			0.3 3.5	0 0	6.3
5670	2nd and 3rd oscillator	102 102			0.05 0.05	-0.15 -0.15	6.3
5670	Clutch control	200 -0.45			0 -0.45	-7.2 -0.45	6.3
5670	4th oscillator and cathode follower	105 194			0.05 5.6	-4.8 0	6.3
5670	Motor control	123 123			10.2 10.2	8.0 5.3	6.3
5670	1st amplifier, r-f gain follower	132.5 200			65 7.0	28 0	6.3

* All readings taken with meter having sensitivity of 20,000 ohms per volt (AN/PSM-4 or TS-352/U), chassis ground.

TABLE 7-7. TUBE OPERATING VOLTAGES* (Continued)

TUBE TYPE	FUNCTION	PLATE (E)	SCREEN (E)	SUPP. (E)	CATH. (E)	GRID (E)	HEATER (E) A-C
5670	Noise amplifier - r-f AGC clamp	120 0.5			2.3 0	0 0.5	6.3
5670	2nd amplifier - squelch	65 36			1.4 28	0 0.75	6.3
5670	Video-noise comparator follower	200 200			17.5 17.5	1.35 0.4	6.3
5670	Calibration phase splitter follower	110 145			6.8 3.8	0.37 0	6.3
5670	Video differential amplifier	87 70			18 17	17 16	6.3
5670	Modulator amplifier and follower	140 145			3.0 2.65	0 0	6.3
5670	Horizontal amplifier	-0.4 0			-80 -80	-55 -53	6.3
5670	Vertical amplifier	-2.05 -1.65			-80 -77	-58 -55	6.3
5670	Horizontal amplifier	130 125			-70 -70	-56 -56	6.3
5670	Vertical amplifier	133 135			-73 -73	-59 -58	6.3
5686	Audio output	190	200	10	10	0	6.3
5726/6AL5W	Discriminator	-25.2 -2.4			4.8 0		6.3
5726/6AL5W	Signal, noise rectifier	0.8 13			0 14		6.3
5726/6AL5W	AGC rectifier	0 0.05			21 29.5		6.3
5726/6AL5W	Horizontal rectifier	-42 -42			-35 -35		6.3
5726/6AL5W	Vertical rectifier	-44 -44			-37.5 -37.5		6.3
OA2	Regulator	150			0		
OA2	Regulator	0			-145		
OA3/VR75	Regulator	150			80		
OC3/VR105	Regulator	107			0		

[*] All readings taken with meter having sensitivity of 20,000 ohms per volt (AN/PSM-4 or TS-352/U), chassis ground.

TABLE 7-8. RATED TUBE CHARACTERISTICS

TUBE TYPE	FILAMENT VOLTAGE (V)	FILAMENT CURRENT (A)	PLATE VOLTAGE (V)	GRID BIAS (V)	SCREEN VOLTAGE (V)	PLATE CURRENT (MA)	SCREEN CURRENT (MA)	A-C PLATE RESISTANCE (OHMS)	VOLTAGE AMPLIFICATION FACTOR (MU)	TRANSCONDUCTANCE (MICROMHOS)
1Z2	1.5	0.300	7800							
5CP12	6.3	0.6	1-4000 2-2000	200						
5R4WGY	5.0	2.0								
6AS6	6.3	0.175	120	-2.0	120	5.2	3.5	150,000		3200
6AS7G	6.3	2.5	135			125		280	2	7000
6F4										
6L6GA	6.3	0.9	250	-14	250	7.2	5.0	22,500		
6X4W	6.3	0.6								
5651			3-107 4-87			3.5				
5654/6AK5W	6.3	0.175	180	-2.0	120	7.7	2.4	690,000		5100
5670	6.3		300			18				
5686	6.3		250		250	15				
5726/6AL5W	6.3	0.3								
OA2			155			5-40				
OA3/VR75			105			5-40				
OC3/VR105			133			5-40				

1 - Anode No. 1
1 - Anode No. 2
3 - Starting voltage
4 - Operating voltage

(b) CRYSTAL DATA.

1. Frequencies of crystals employed are listed in table 7-9.

2. Crystals Y401 to Y418, inclusive, are ground to tolerance of plus or minus 0.002 per cent for operating temperature of 75°C (167°F). Crystal Y301 is ground to tolerance of plus or minus 0.005 per cent for operating temperatures ranging from -55°C (-67°F) to 90°C (194°F).

3. Crystal circuits for the monitor are schematically illustrated in figure 7-38; the crystal circuit in the i-f video - audio chassis is illustrated schematically in figure 7-41.

4. Crystal holder - 3/4-inch Type HC-6/U.

5. CRYSTAL OVEN OPERATING TEMPERATURES.

a. Single crystal oven—68°C to 81°C (154.4°F to 177.8°F).

b. Multiple crystal oven—65°C to 81°C (149°F to 177.8°F).

(c) WINDING DATA.--Table 7-10 lists winding data for wire-wound units of the direction finder set. See illustration pages for table 7-10 (3 sheets). Illustrations are indexed under Bendix part number.

TABLE 7-9. CRYSTAL CIRCUIT FREQUENCY

CRYSTAL CIRCUIT	CRYSTAL SYMBOL	FREQUENCY (MC)	CIRCUIT LOCATION
First Crystal Oscillator	Y401	0.833333	Monitor
Second Crystal Oscillator A crystal	Y402	3.233333	↓
↓ E ↓	Y403	3.400000	
D	Y404	3.566667	
C	Y405	3.733333	
B	Y406	3.900000	
Third Crystal Oscillator F	Y407	3.650000	
↓ P	Y408	3.666667	
N	Y409	3.683333	
L	Y410	3.700000	
J	Y411	3.716667	
G	Y412	3.733333	
Q	Y413	3.750000	
O	Y414	3.766667	
M	Y415	3.783333	
K	Y416	3.800000	
Fourth Crystal Oscillator R	Y417	5.172917	
↓ S	Y418	5.181250	
Second Mixer Heterodyne	Y301	12.517800	I-F Video-Audio Chassis

TABLE 7-10. WINDING DATA

DESIGNATION SYMBOL	BENDIX PART NO.	DIAGRAM	WINDING	WIRE SIZE	TURNS	D-C RES. IN OHMS	IMPED. RATIO	REMARKS
L101, L102, L103, L104	C215470-1							
L201 L409, L415, L416, L423, L449	C215351-2							
L202	N215544-9							
L203	C215466-1							
L204	C215467-1							
L206, L207	Part of Z201							
L208, L209	Part of Z202							
L210, L212, L213, L214	Part of Z203							
L211	C215665							
L215, L216, L219	C215350-20							
Z201	N203798-9							
Z202, Z301	N207922-1							
Z203	N280116-1							
L301, L302	Part of Z301							
L303, L304	Part of Z302							
L305, L306	Part of Z303							
L307, L308	Part of Z304							
L309, L310	Part of Z305							
L311, L312	Part of Z306							
L313, L314, L315	Part of Z307							
L316, L317	Part of T301							

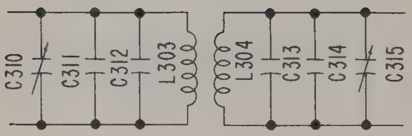
TABLE 7-10. WINDING DATA (Continued)

DESIGNATION SYMBOL	BENDIX PART NO.	DIAGRAM	WINDING	WIRE SIZE	TURNS	D-C RES. IN OHMS	IMPED. RATIO	REMARKS
T301	L284339-1							
Z302,Z303	N204300-4							
Z304	N204300-5							
Z305	N204290-3							
Z306	N204321-2							
Z307	L284341-1							
L401	N215544-5							
L402	N215544-6							
L403								
L404	C215350-11							
L405,L406	Part of Z401							
L407	C215796-1							
L408	C215797-1							
L410	C215713-4							
L411	C215713-3							
L412	C217337-1							
L413,L414	C215712-2							
L417	C215710-2							
L418	C215711-2							
L419	C215708-2							
L420	C215709-2							
L421	C215707-2							

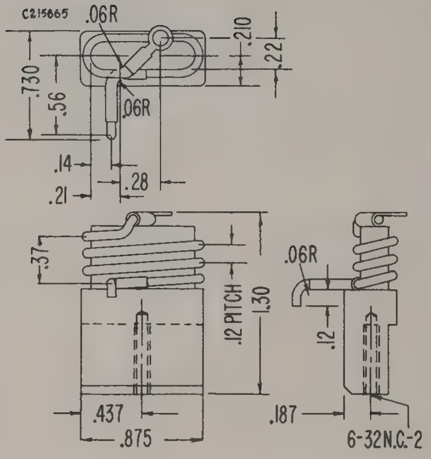
TABLE 7-10. WINDING DATA (Continued)

DESIG-NATION SYMBOL	BENDIX PART NO.	DIAGRAM	WINDING	WIRE SIZE	TURNS	D-C RES. IN OHMS	IMPED. RATIO	REMARKS
L422	C215706-2							
L424 to L437, L440 L442 to L447, L449,L450	C215350-24							
L438,L439	C215350-23							
Z401	L205602-3							
Z402	N206859-2							
Z403	L205604-4							
Z404	L215724-3							
Z405	L205606-3							
Z406	L205603-3							
Z407	L205605-3							
L701	L284318-1							
L702	L284064-1							
T701	N284319-1							
T702	N284320-1							
T703	L284063-1							
L801,L802, L1101,L1102	C215350-37							
L901 to L906	L284025-2							
L907	L284331-1							
L908	L284059-1							
T901	C284058-1							
T902	L284057-1							
T903	L284056-1							

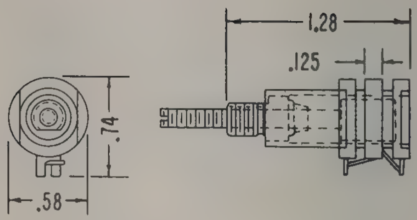
N204300-



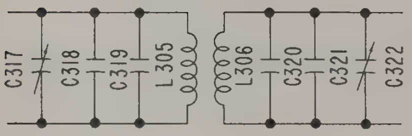
C215665



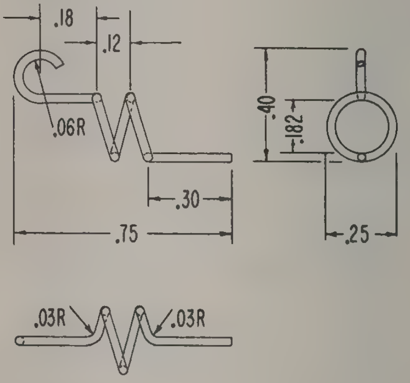
N215544-6



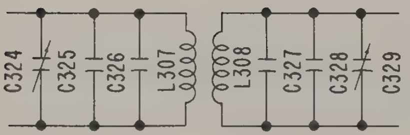
N204300-



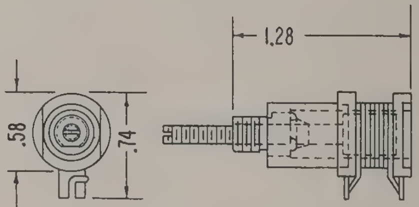
C215467



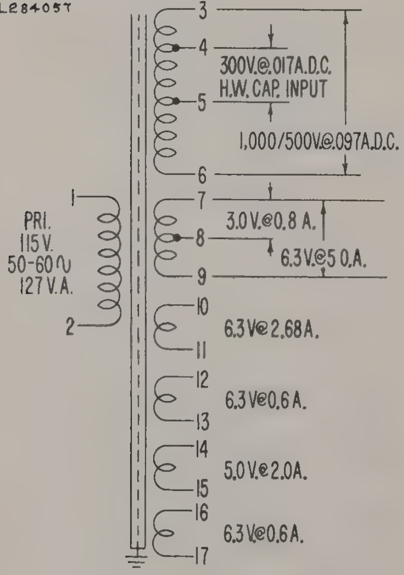
N204300-



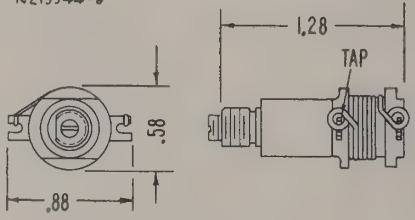
N215544-10



L284057



N215544-9



C215466

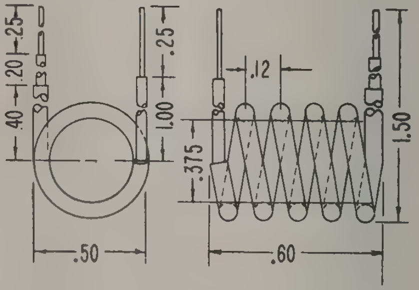
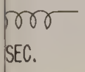
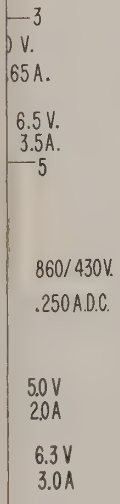
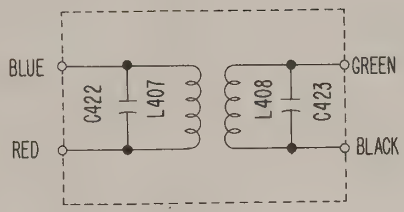


Table 7-10. Winding Data Diagrams (Sheet 1 of 3 Sheets)

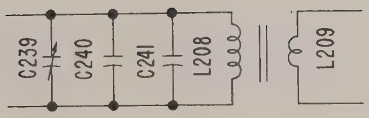




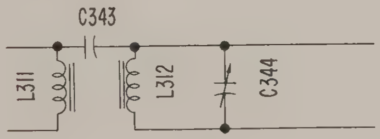
N206859



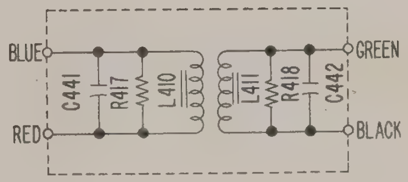
N207922



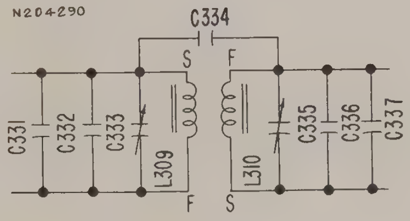
N204321



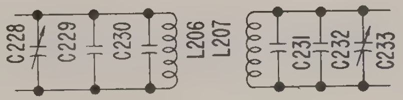
L205604



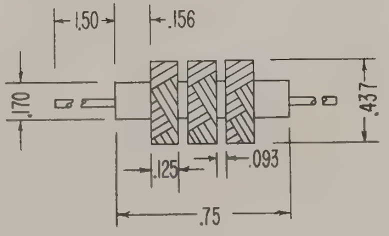
N204290



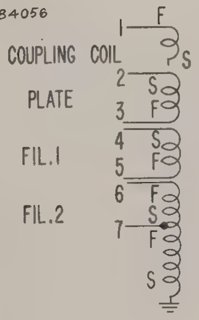
N203798



C215351



L284056



10. Winding Data Diagrams (Sheet 2 of 3 Sheets)

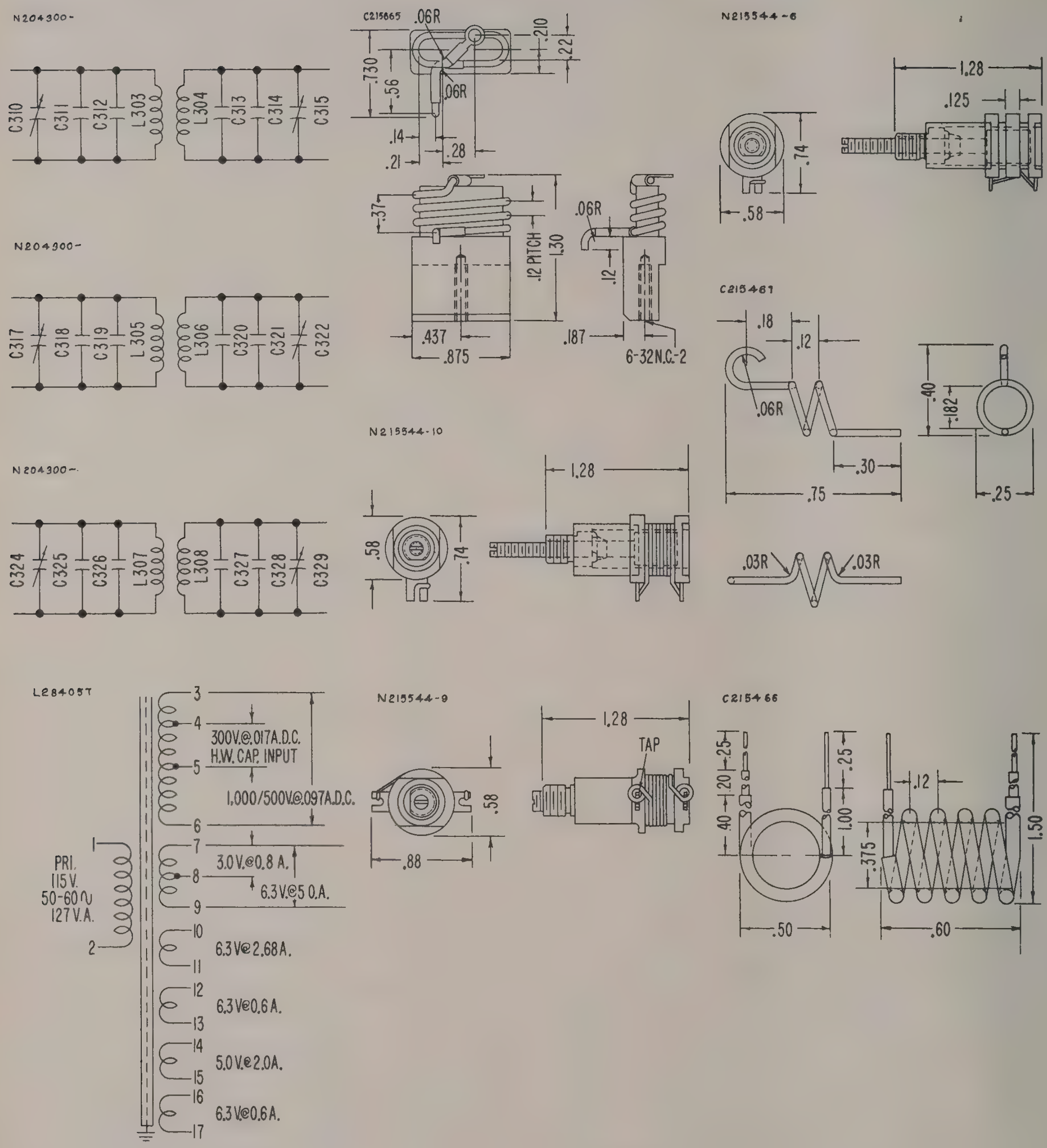
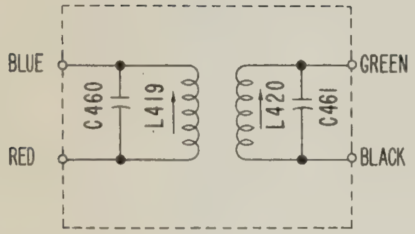
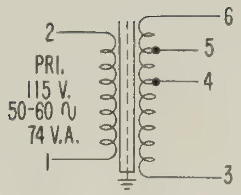


Table 7-10. Winding Data Diagrams (Sheet 1 of 3 Sheets)

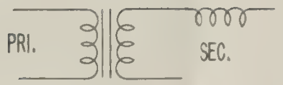
L205603



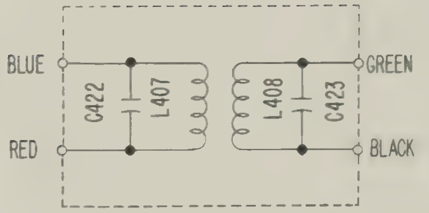
L284063



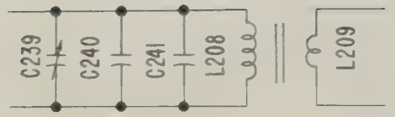
L284341



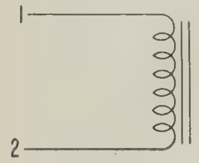
N206859



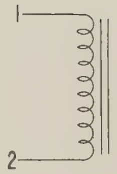
N207922



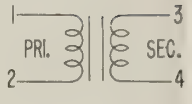
L284318



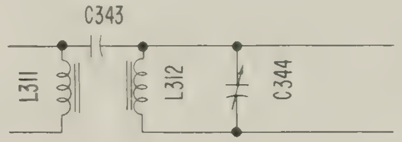
L284064



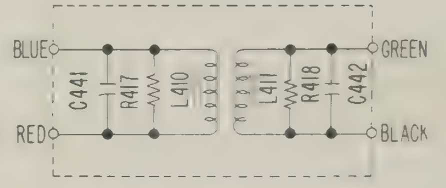
L284339



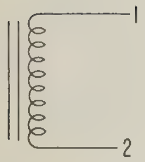
N204321



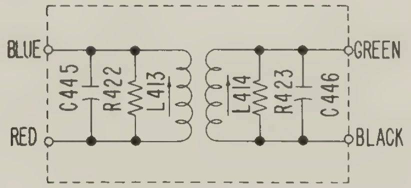
L205604



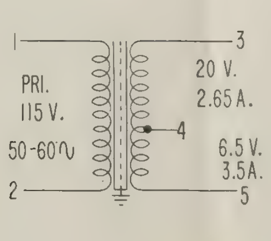
L284331



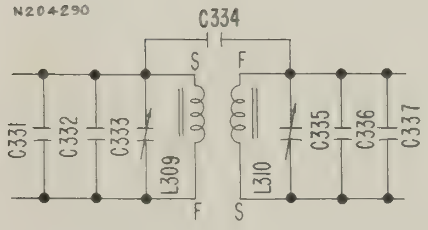
L215724



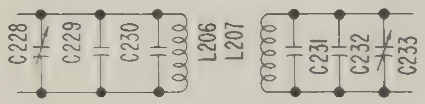
N284320



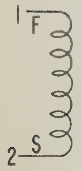
N204290



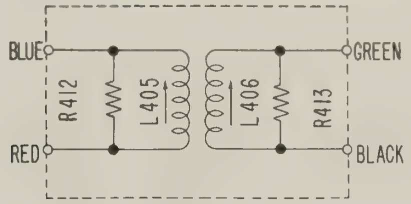
N203798



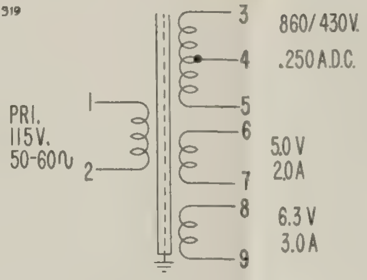
L284025



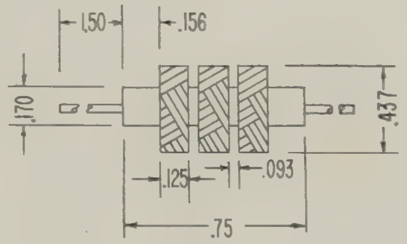
L205602



N284319



C215351



L284056

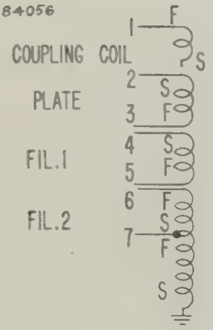
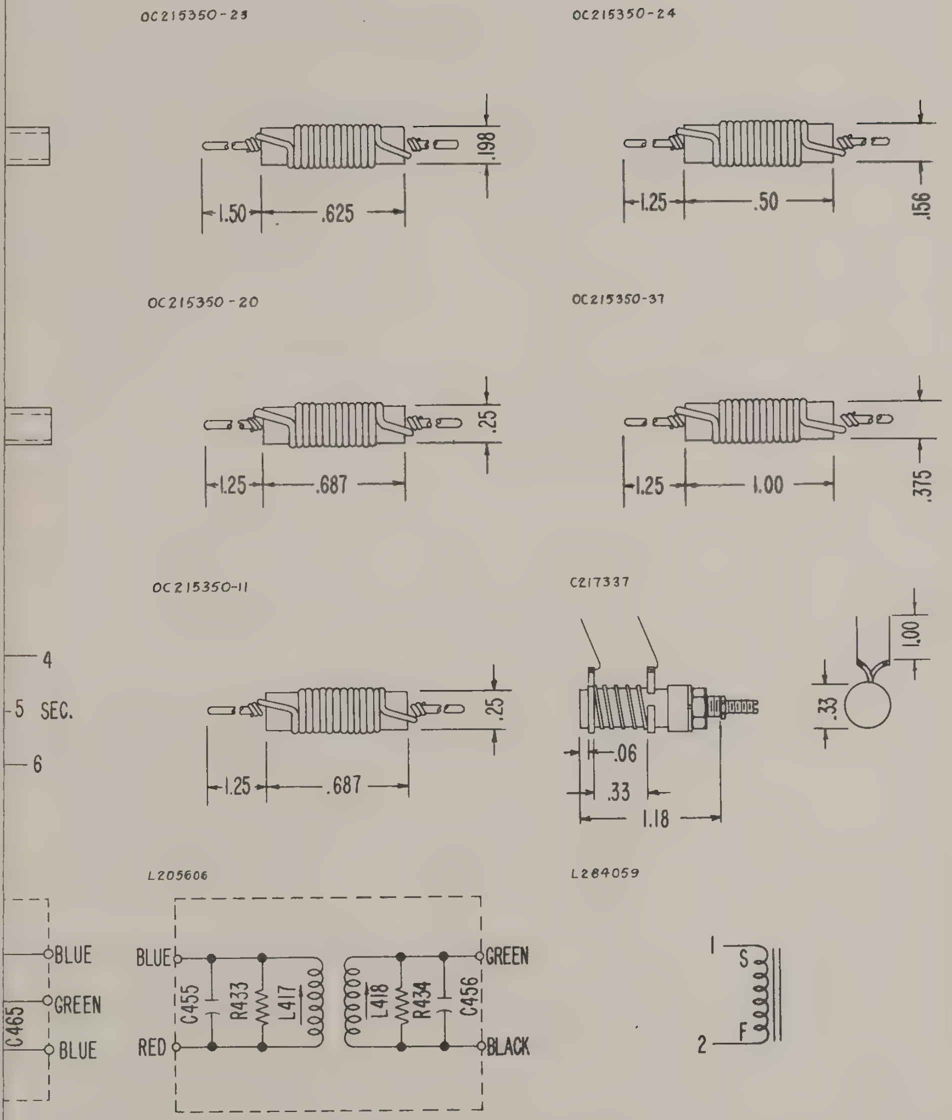


Table 7-10. Winding Data Diagrams (Sheet 2 of 3 Sheets)



. Winding Data Diagrams (Sheet 3 of 3 Sheets)

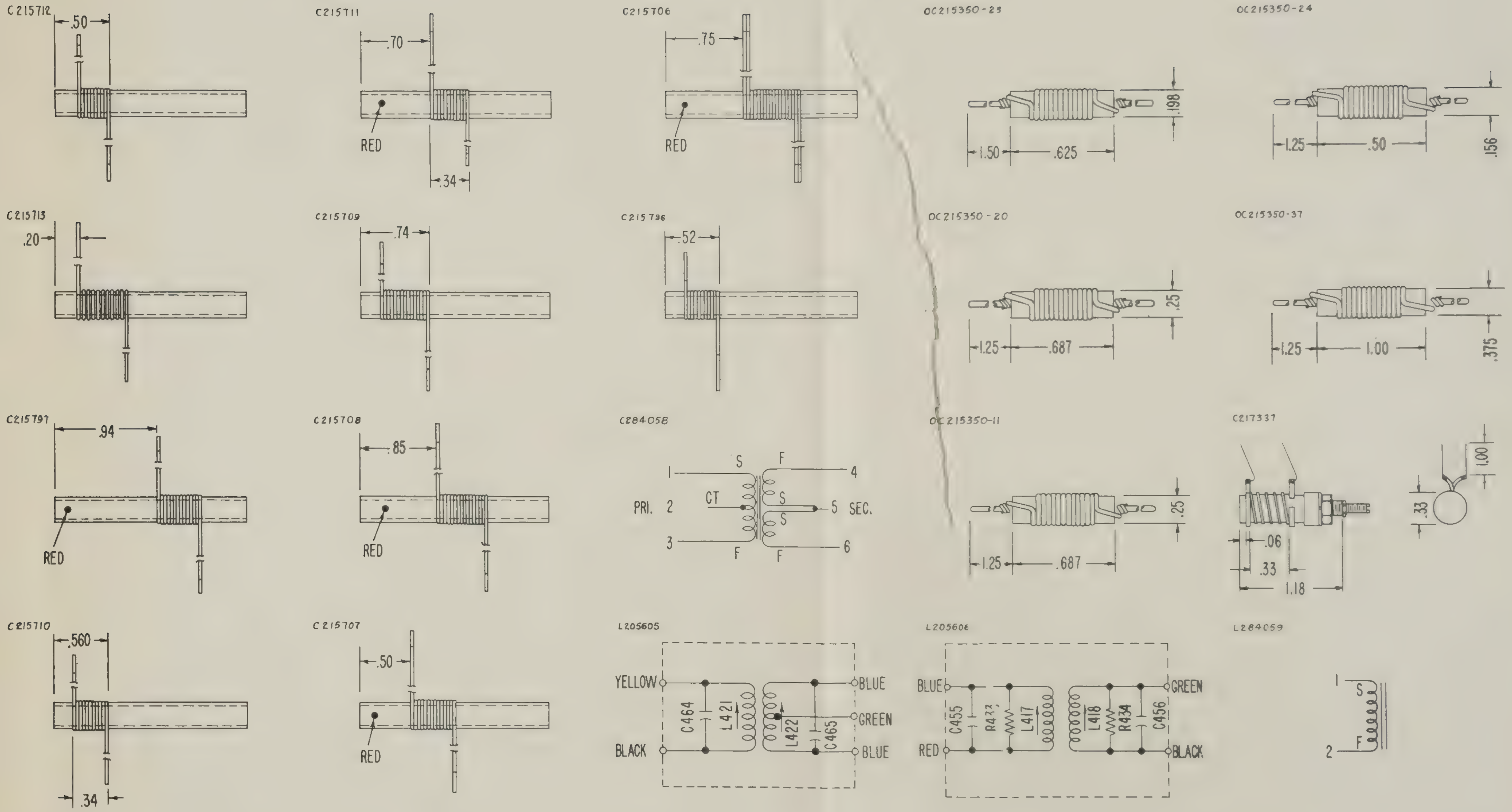


Table 7-10. Winding Data Diagrams (Sheet 3 of 3 Sheets)

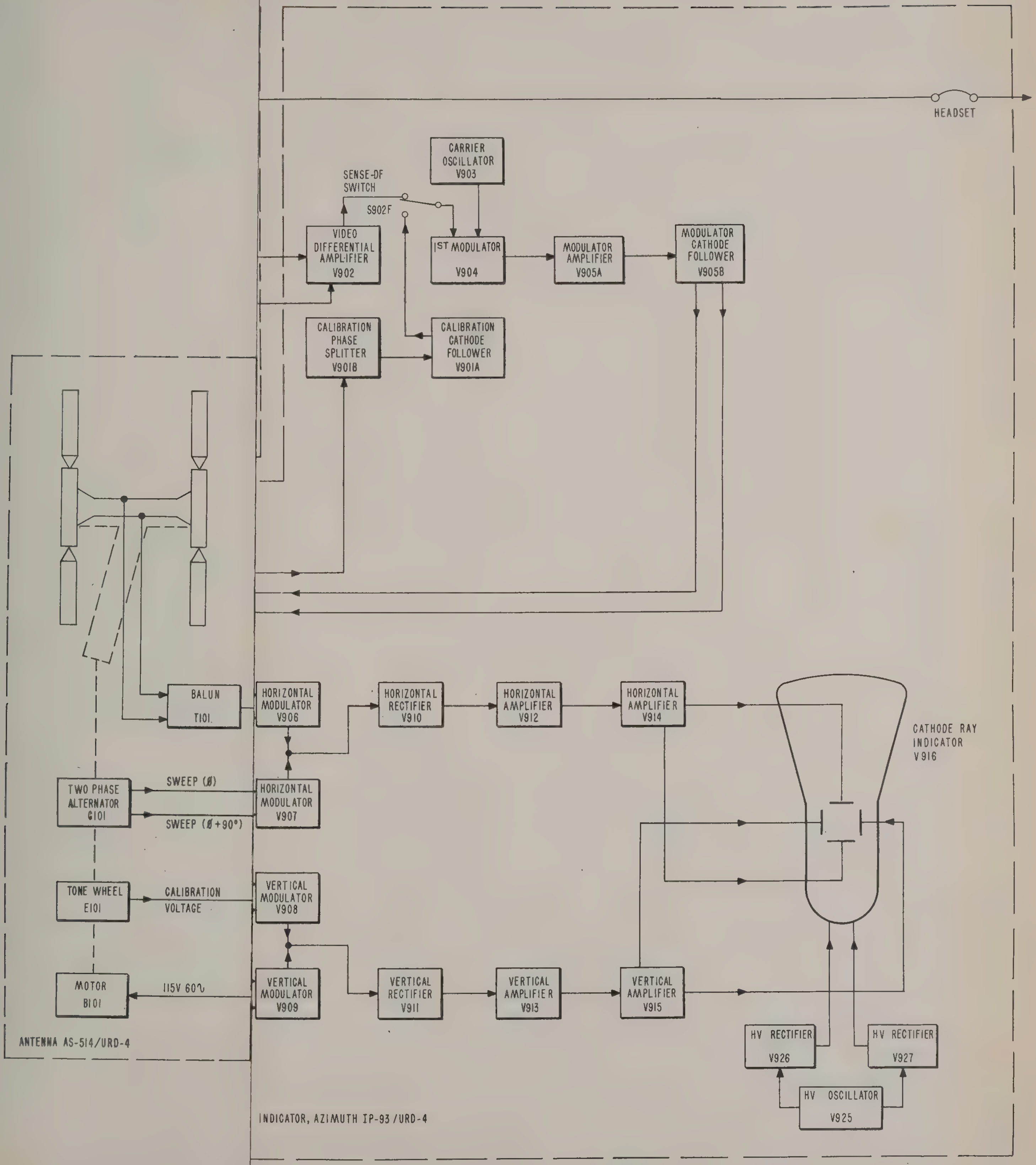

HEADSET
CARRIER OSCILLATOR V903
SENSE-DF SWITCH
S902F
VIDEO DIFFERENTIAL AMPLIFIER V902
1ST MODULATOR V904
MODULATOR AMPLIFIER V905A
MODULATOR CATHODE FOLLOWER V905B
CALIBRATION PHASE SPLITTER V901B
CALIBRATION CATHODE FOLLOWER V901A
BALUN T101
HORIZONTAL MODULATOR V906
HORIZONTAL RECTIFIER V910
HORIZONTAL AMPLIFIER V912
HORIZONTAL AMPLIFIER V914
CATHODE RAY INDICATOR V916
TWO PHASE ALTERNATOR G101
SWEEP (Ø)
SWEEP (Ø+90°)
HORIZONTAL MODULATOR V907
TONE WHEEL E101
CALIBRATION VOLTAGE
VERTICAL MODULATOR V908
MOTOR B101
115V 60∿
VERTICAL MODULATOR V909
VERTICAL RECTIFIER V911
VERTICAL AMPLIFIER V913
VERTICAL AMPLIFIER V915
ANTENNA AS-514/URD-4
HV RECTIFIER V926
HV RECTIFIER V927
HV OSCILLATOR V925
INDICATOR, AZIMUTH IP-93/URD-4

Figure 7-25. Servicing Block Diagram

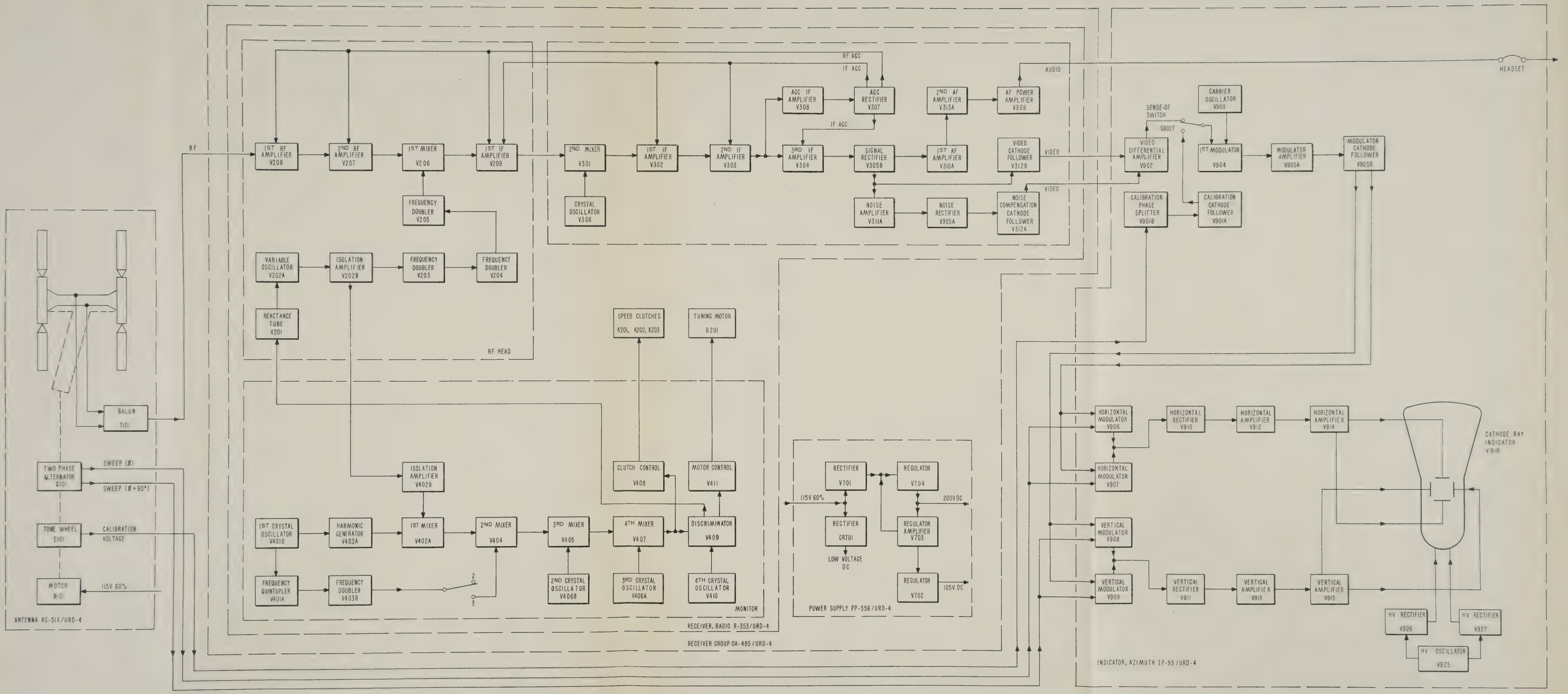
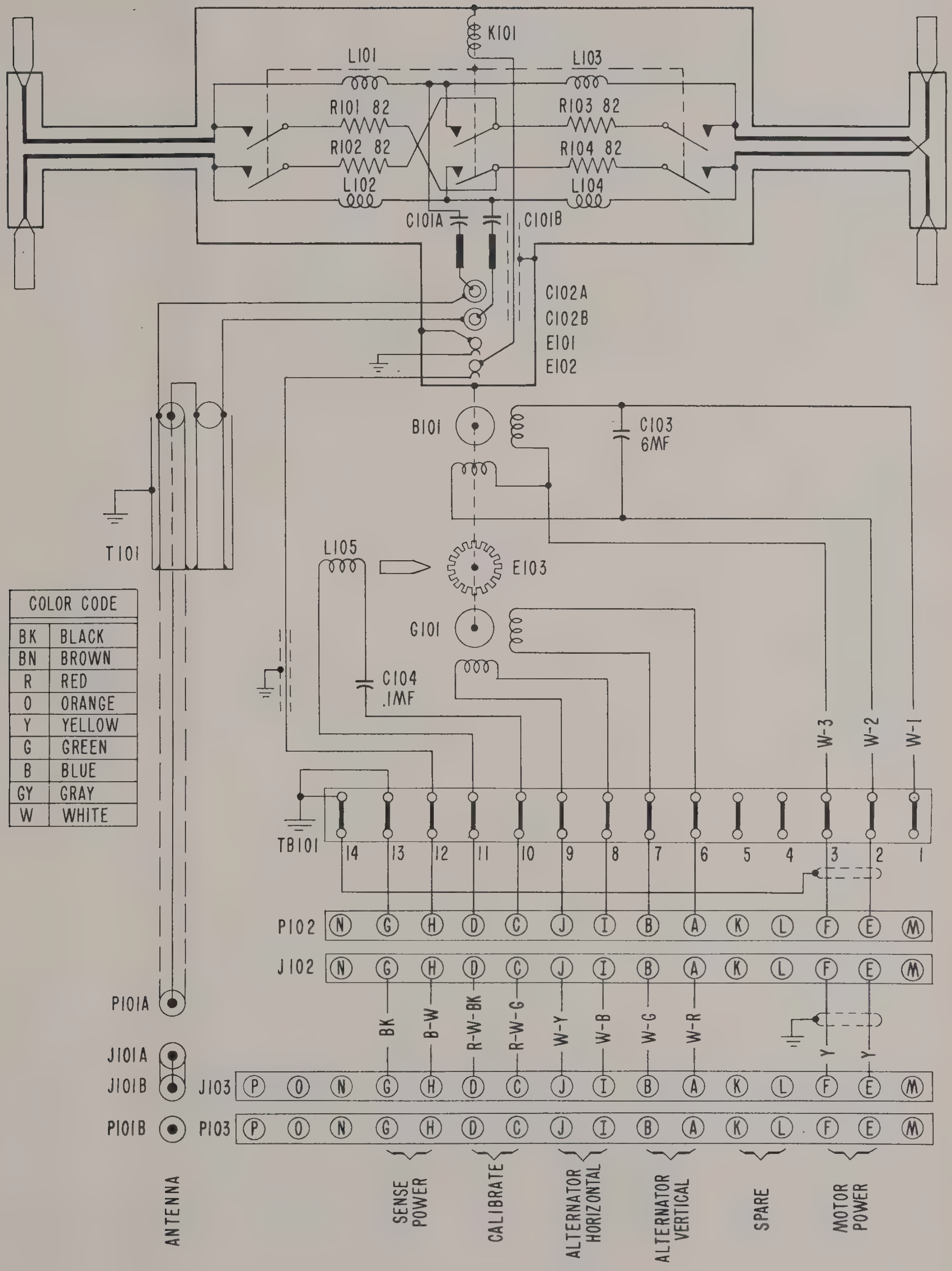
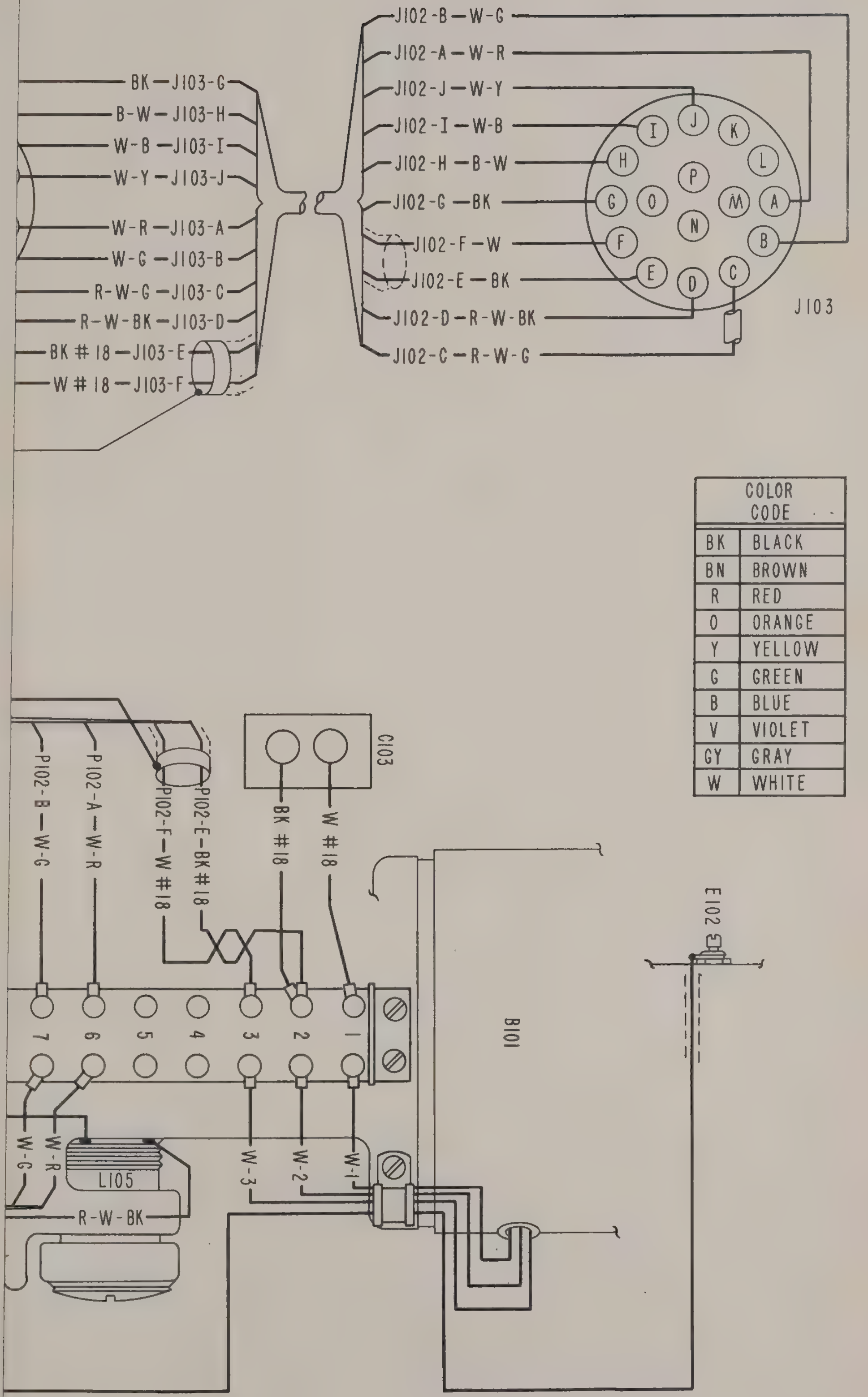


Figure 7-25. Servicing Block Diagram



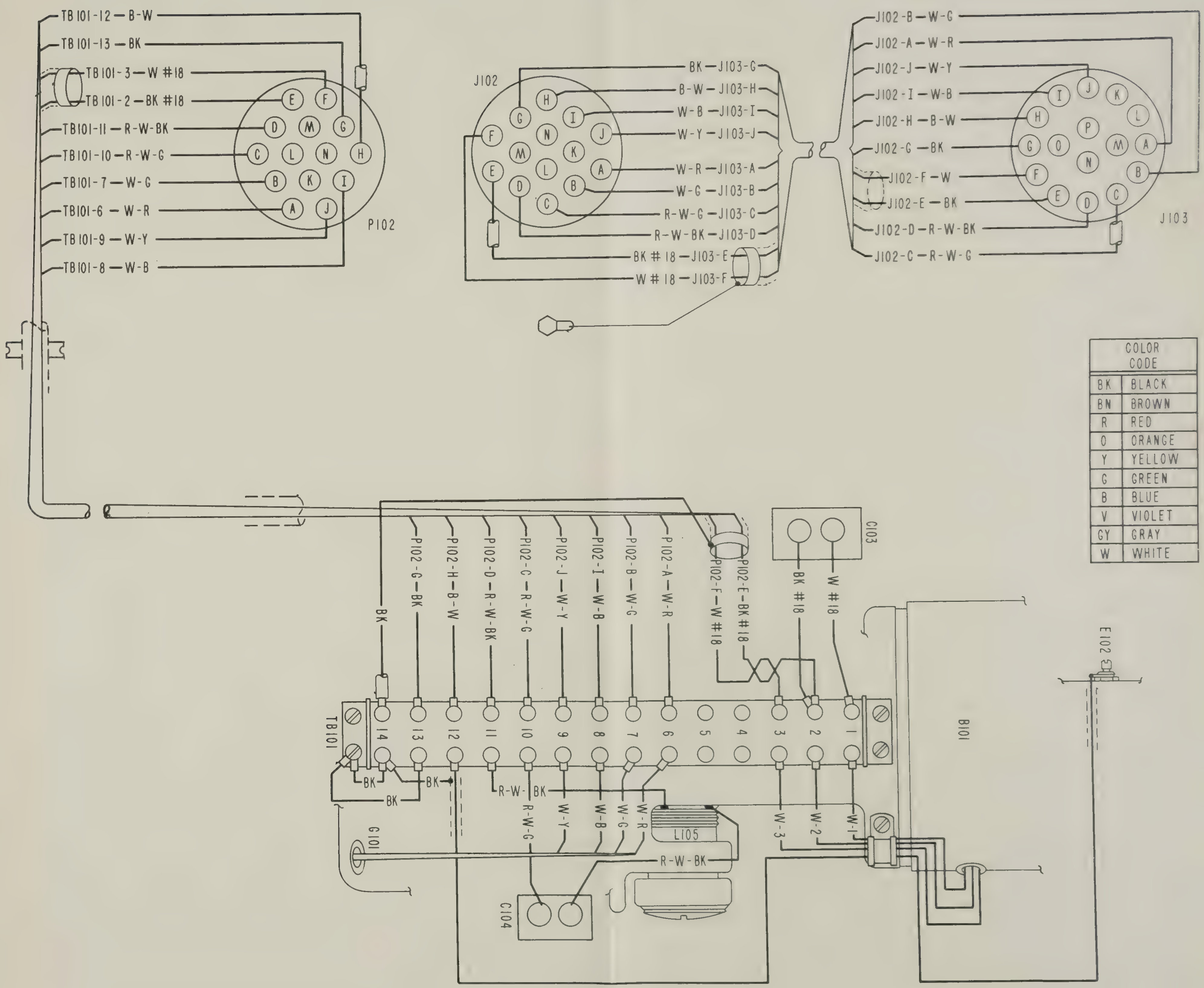
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

Figure 7-26. Antenna AS-514/URD-4, Schematic Diagram



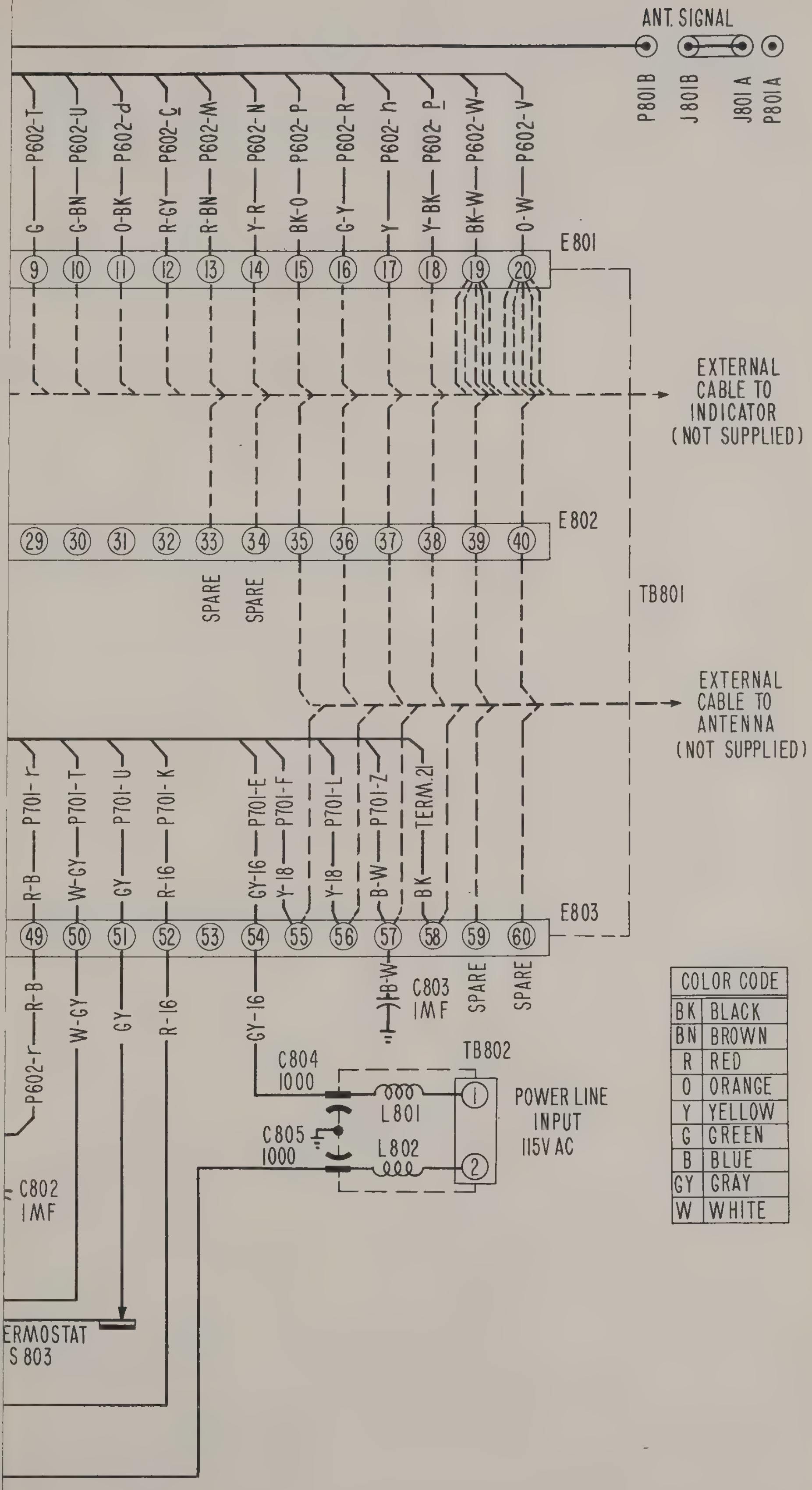
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

e 7-27. Antenna AS-514/URD-4, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-27. Antenna AS-514/URD-4, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

binet CY-890/URD-4, Schematic Diagram

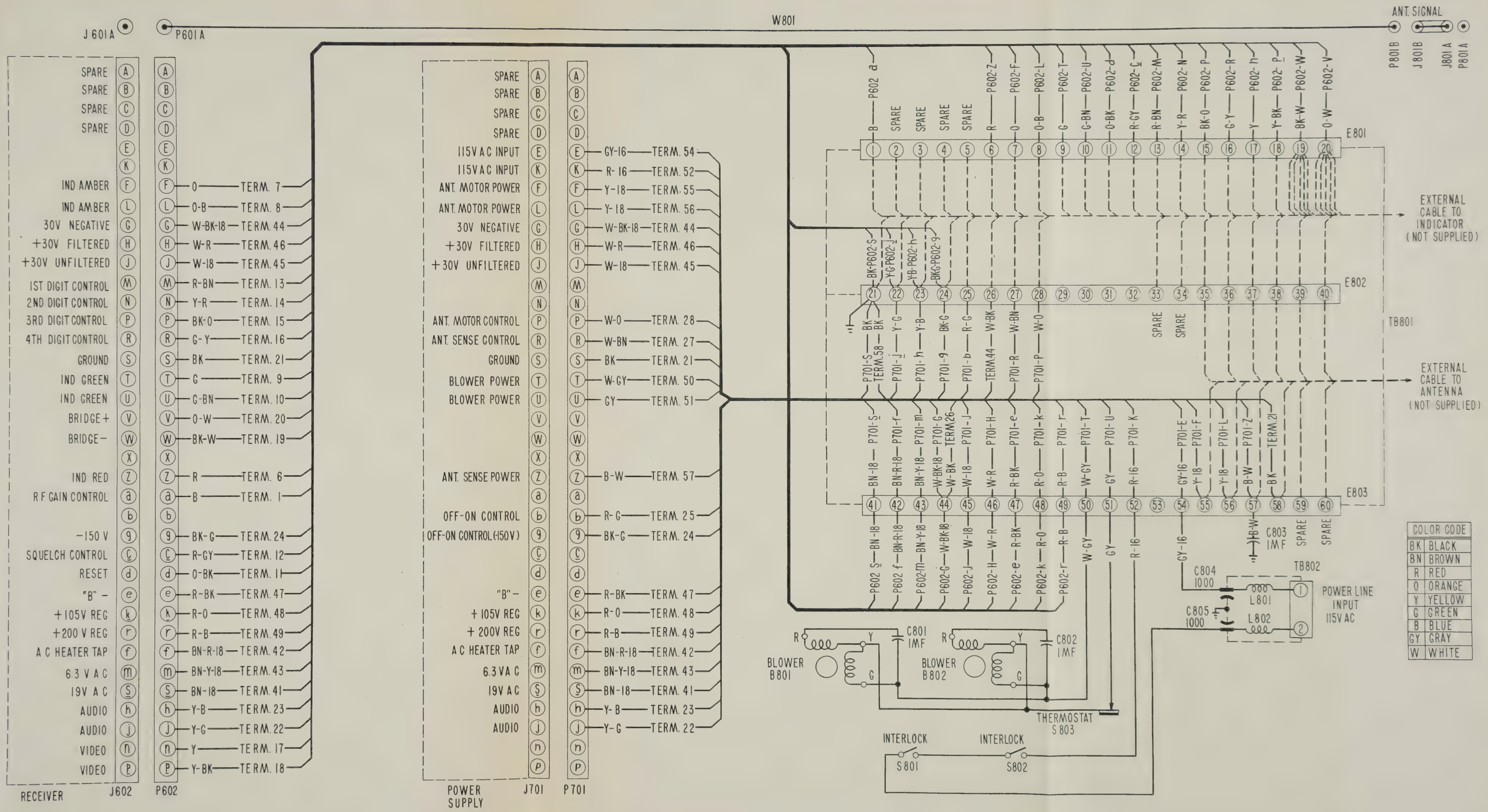
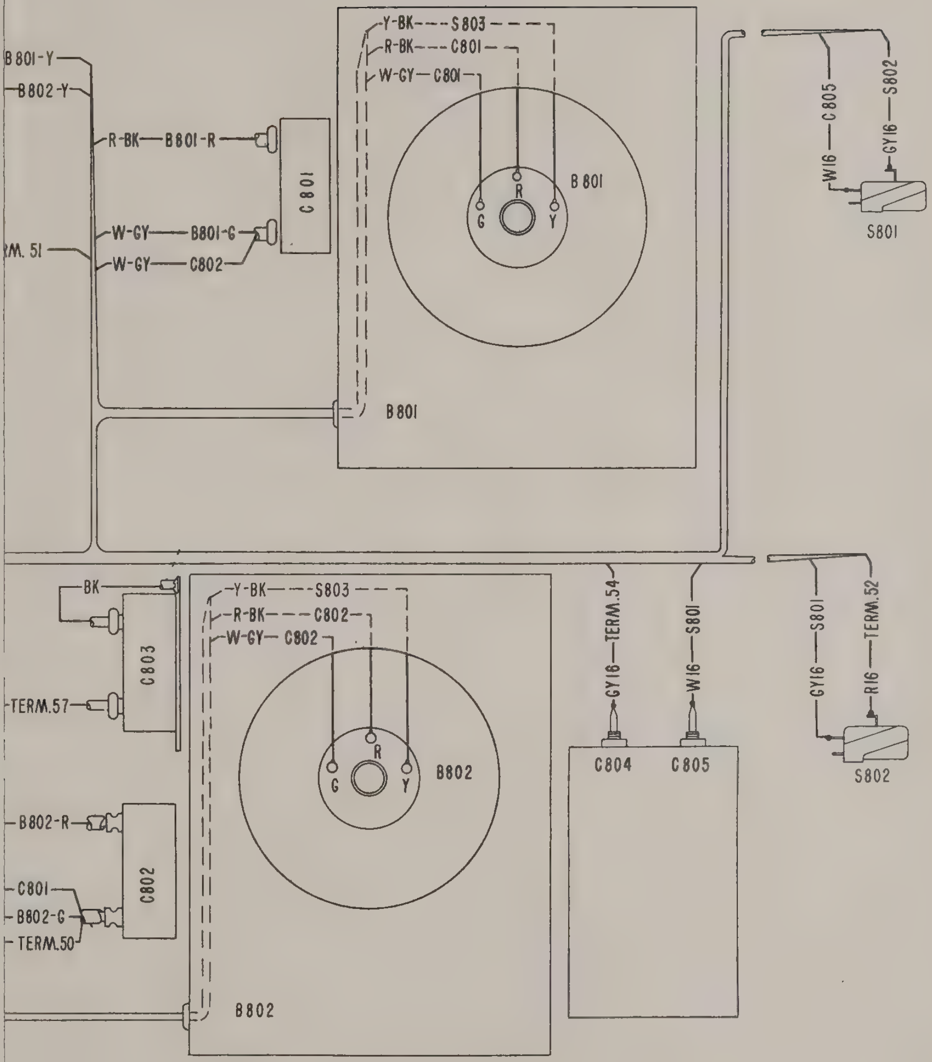
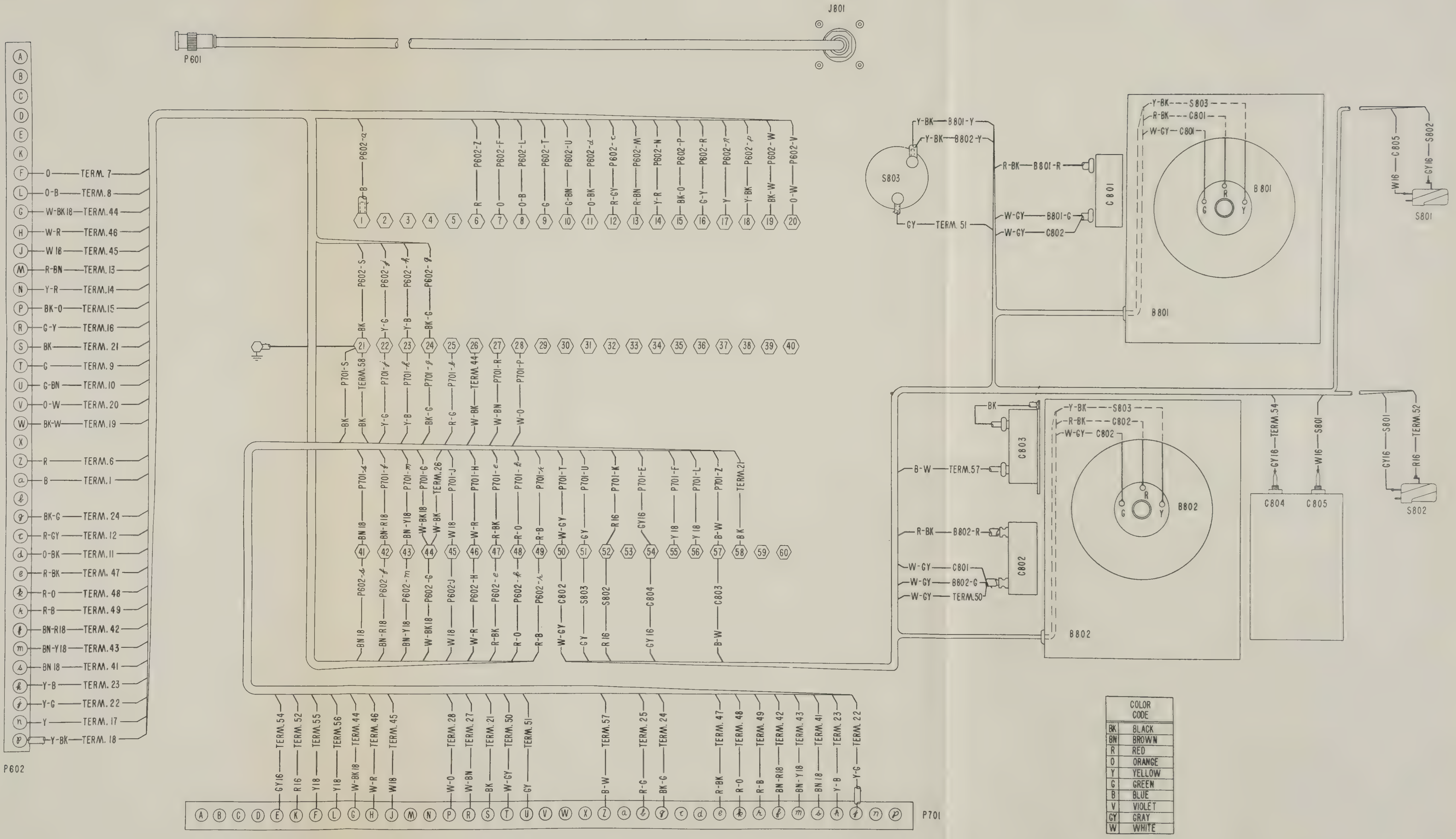


Figure 7-28. Cabinet CY-890/URD-4, Schematic Diagram



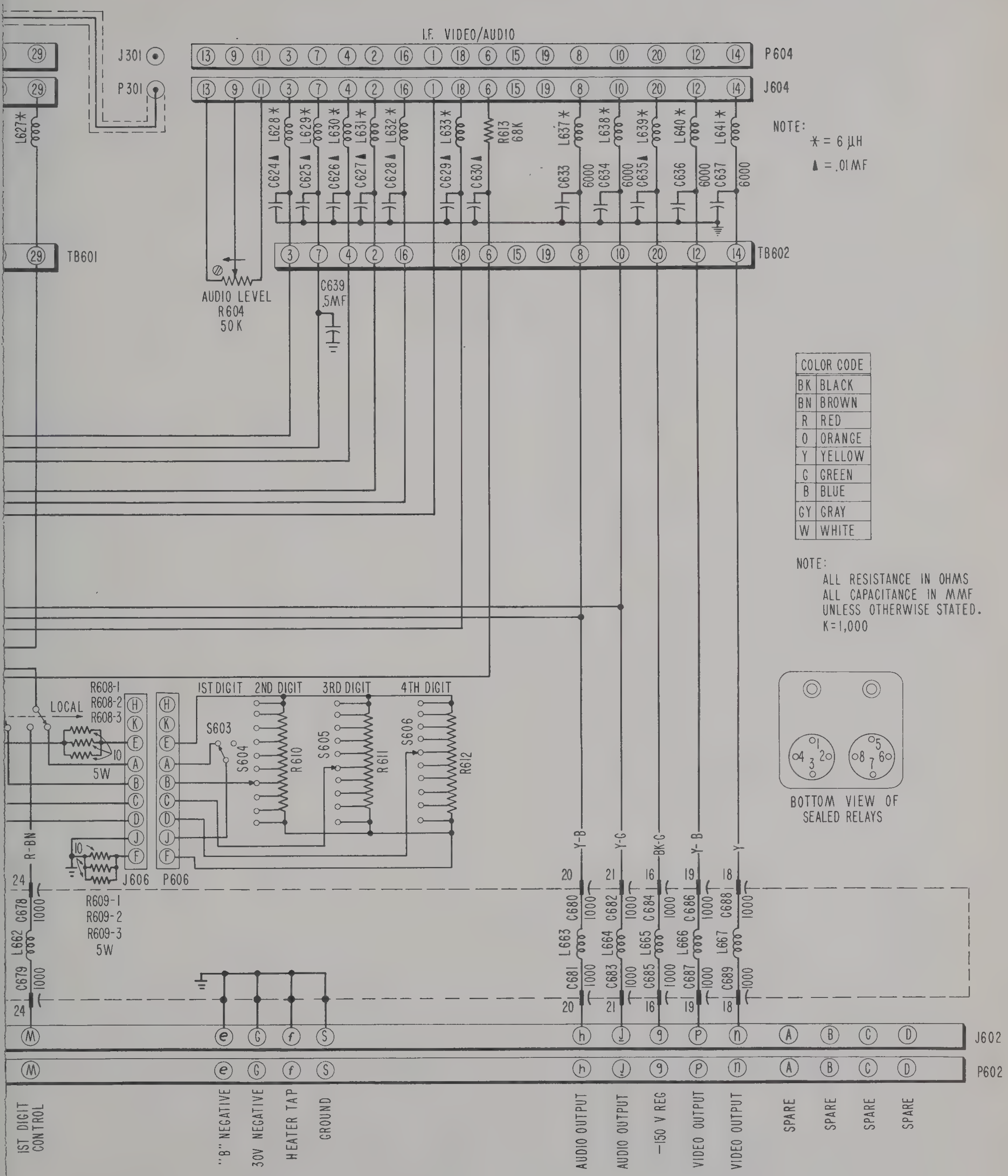
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

7-29. Cabinet CY-890/URD-4, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-29. Cabinet CY-890/URD-4, Wiring Diagram



NOTE:
* = 6 µH
▲ = .01 MF

COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

NOTE:
ALL RESISTANCE IN OHMS
ALL CAPACITANCE IN MMF
UNLESS OTHERWISE STATED.
K=1,000

Figure 7-30. Receiver Frame, Schematic Diagram

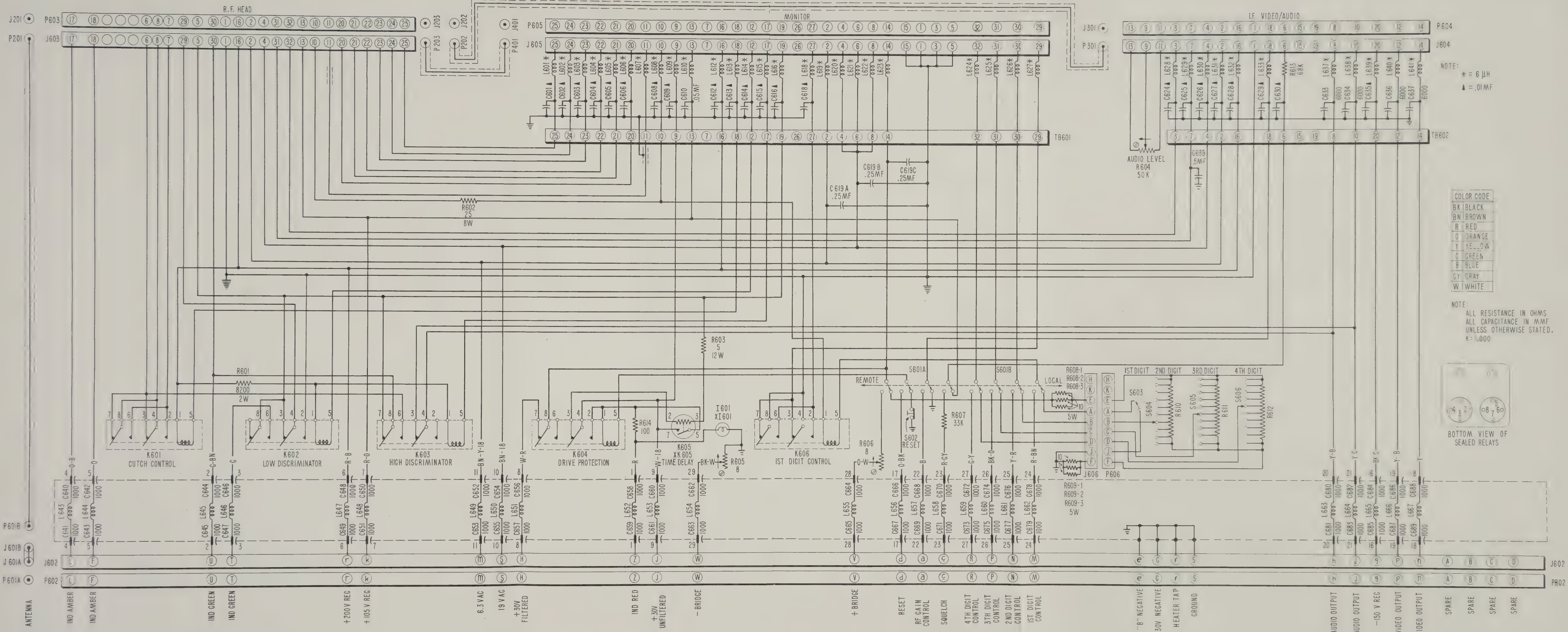
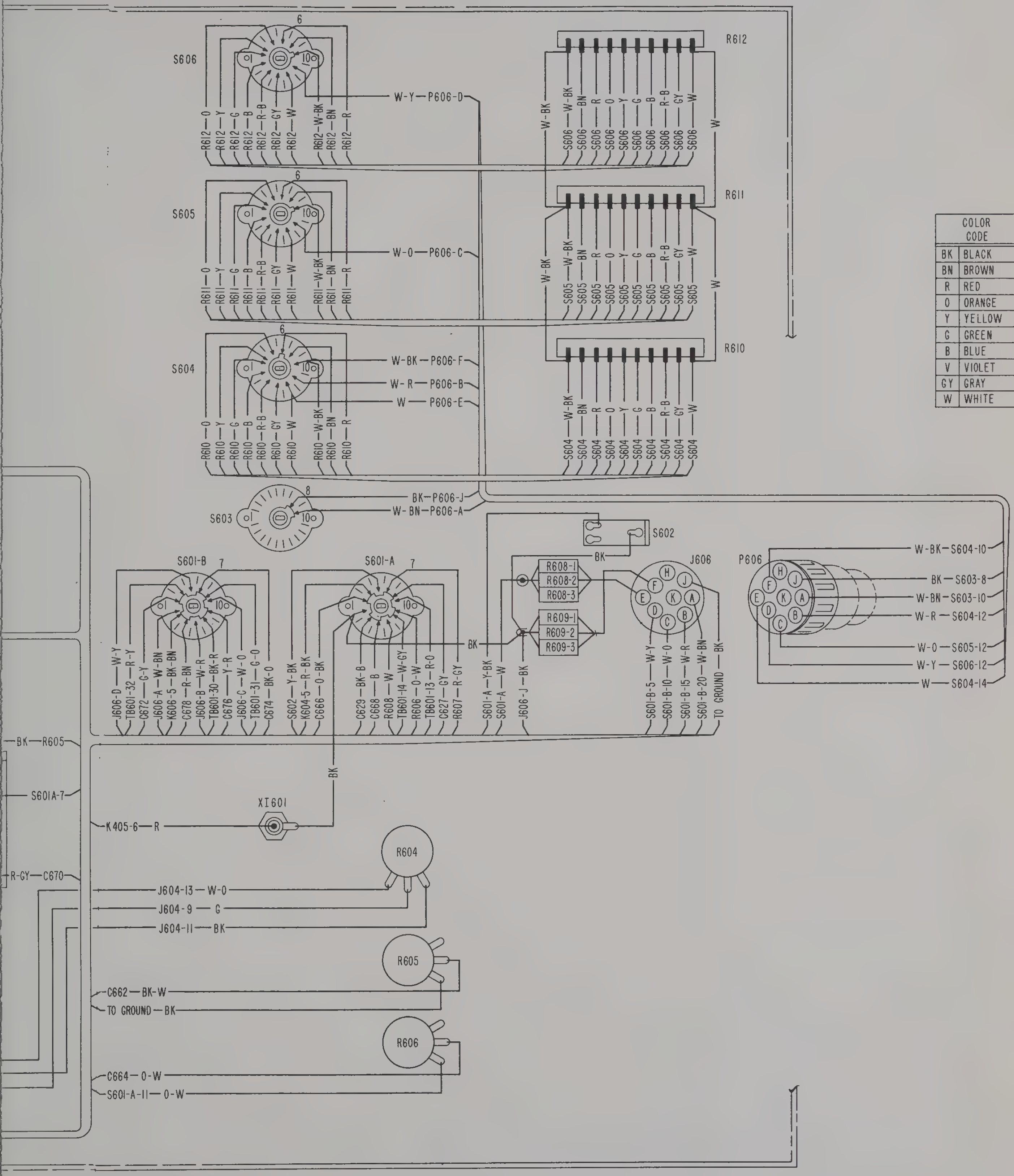


Figure 7-30. Receiver Frame, Schematic Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-31. Receiver Frame, Wiring Diagram

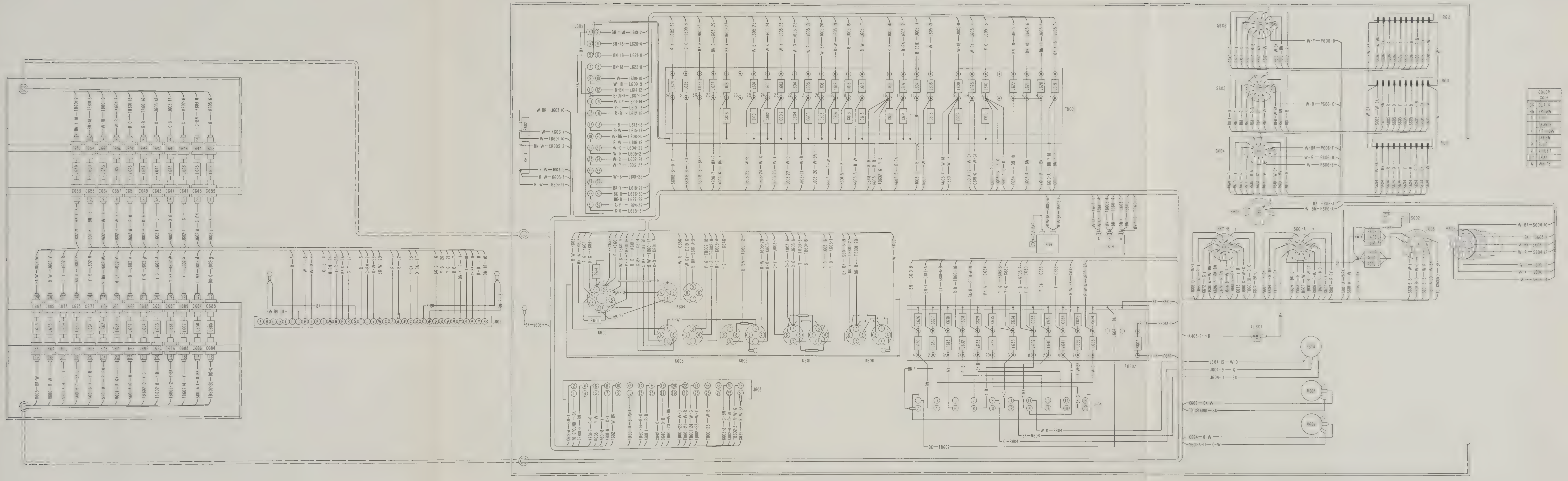
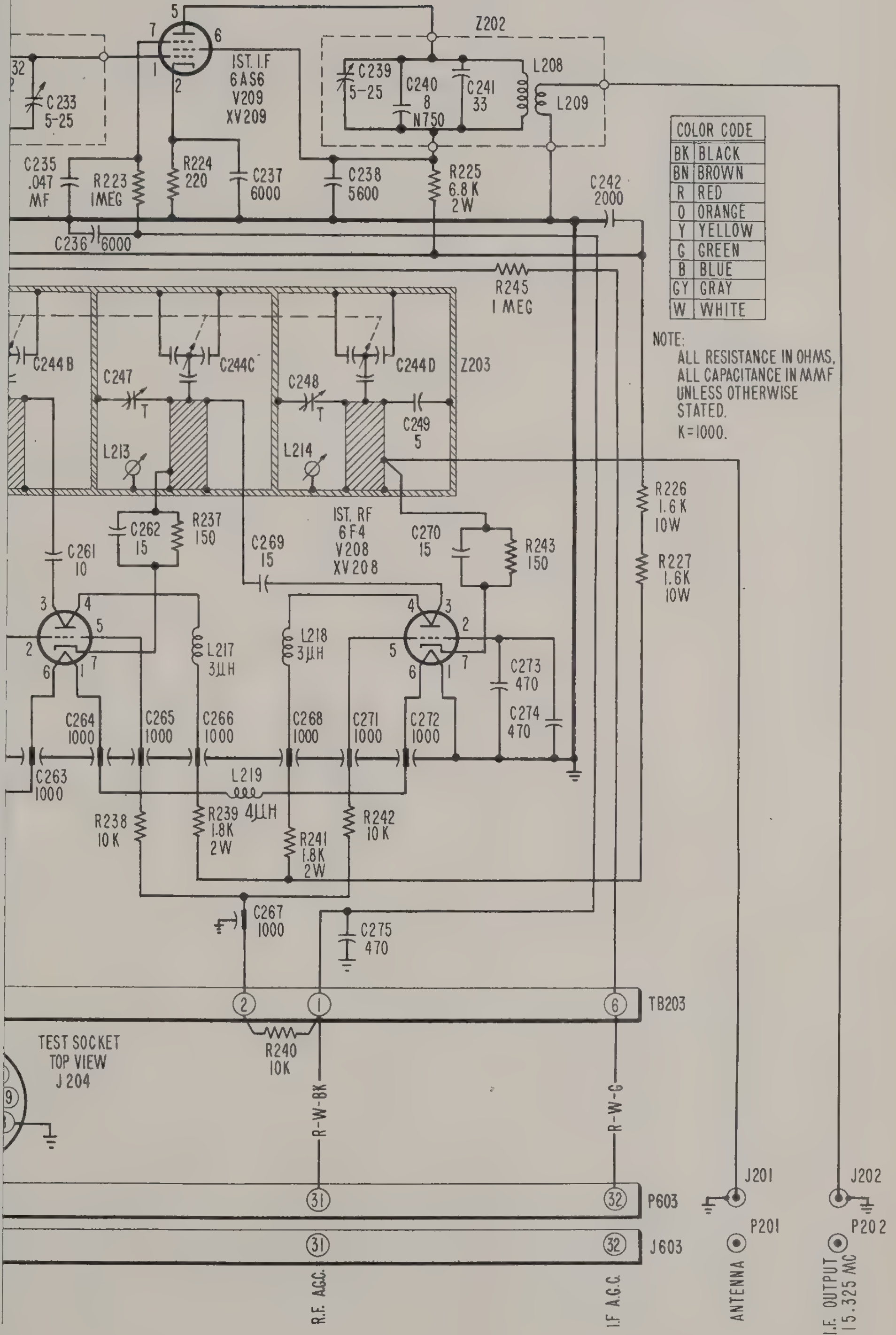


Figure 7-31. Receiver Frame, Wiring Diagram



gure 7-32, R-F Head, Schematic Diagram

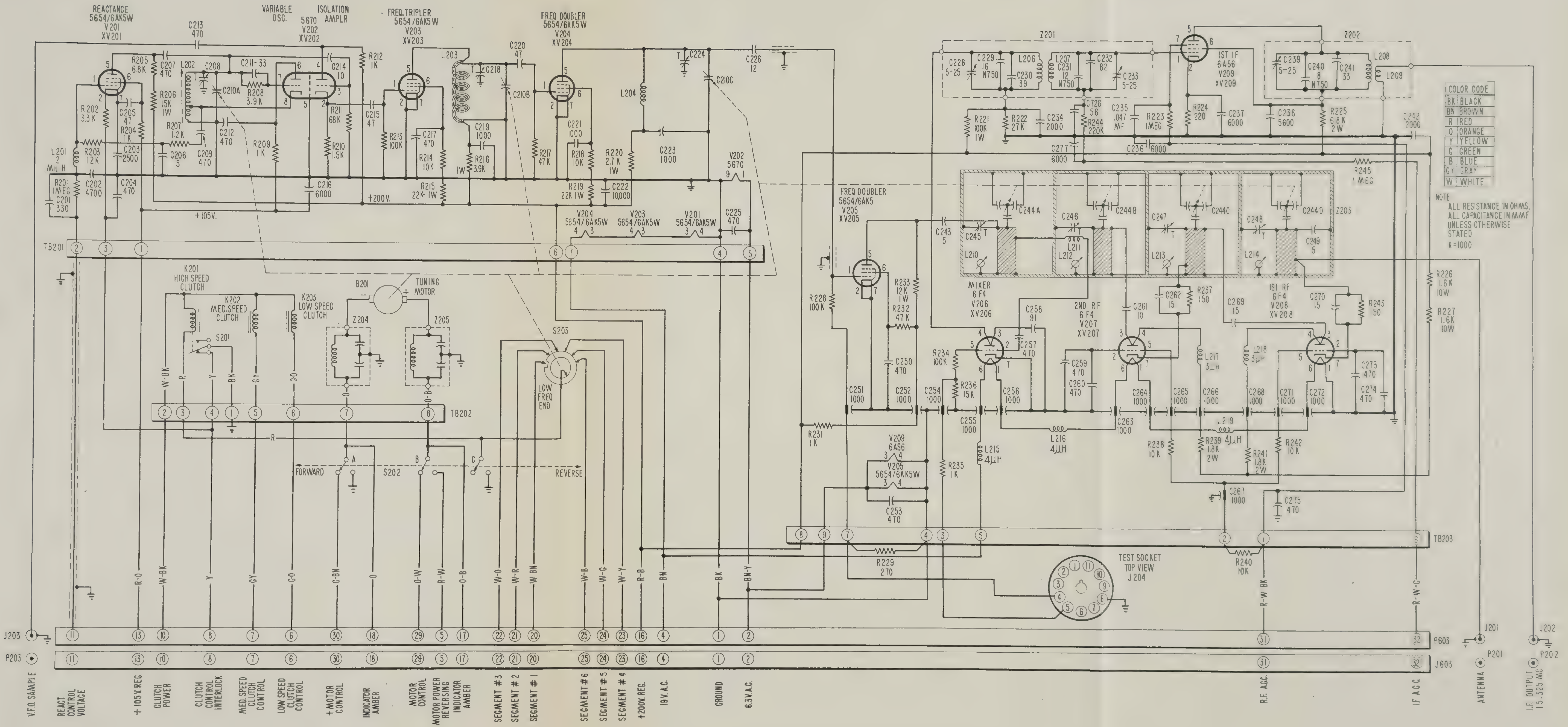
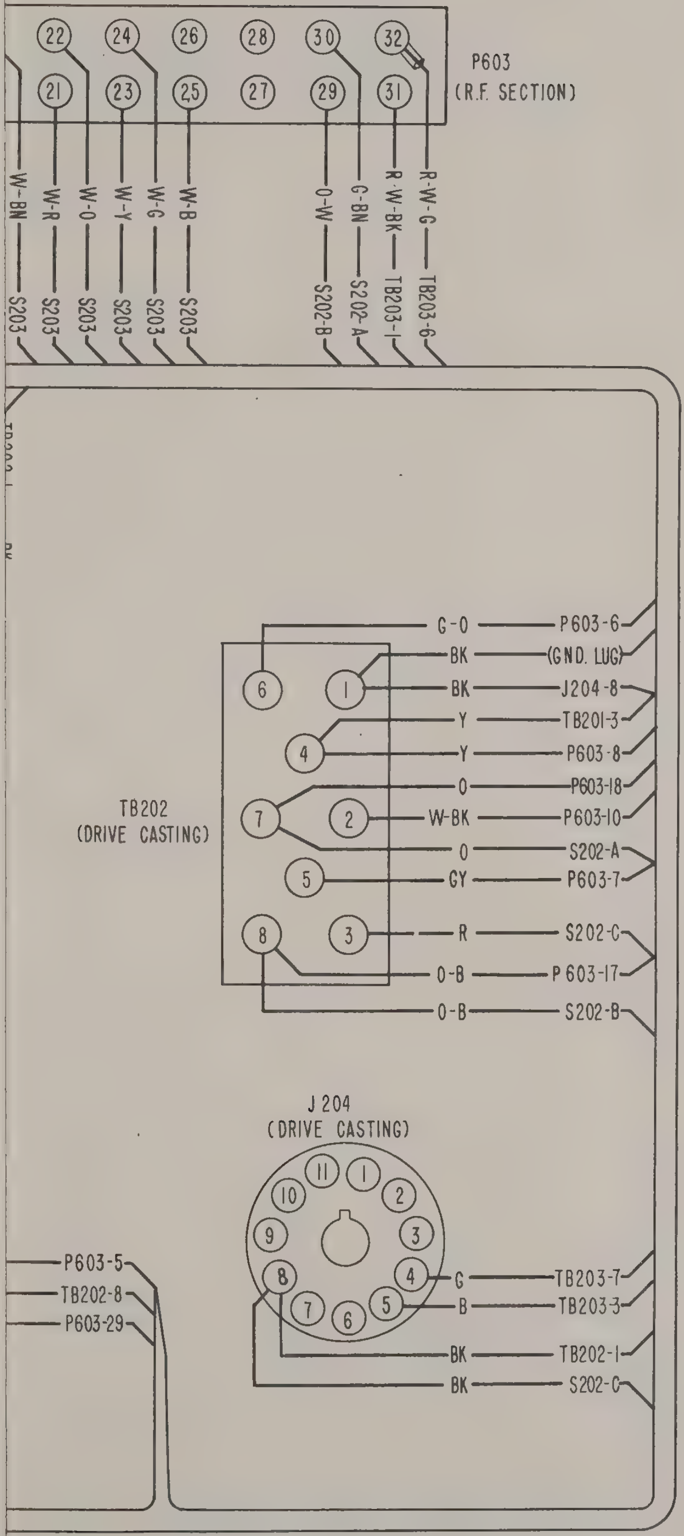
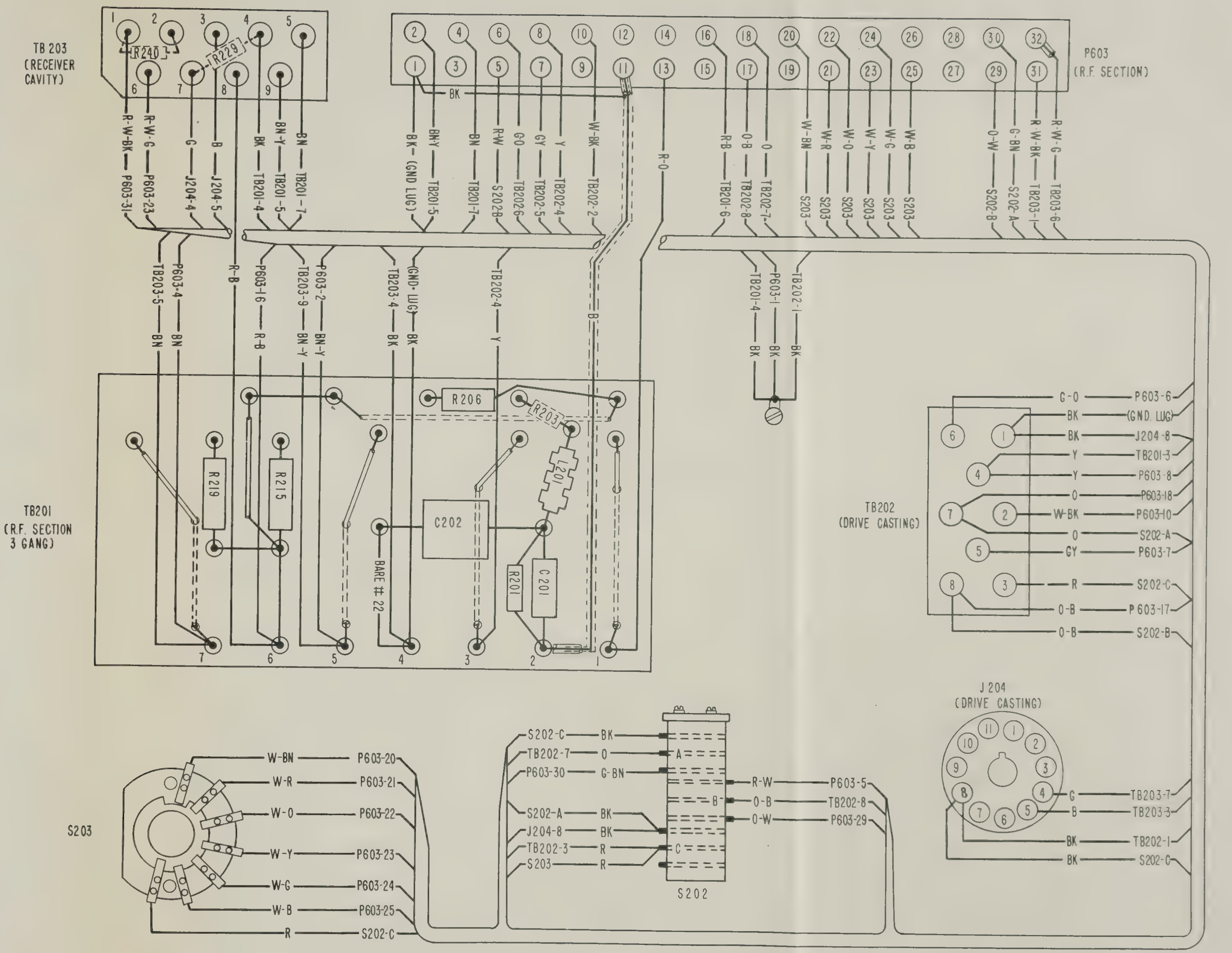


Figure 7-32, R-F Head, Schematic Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

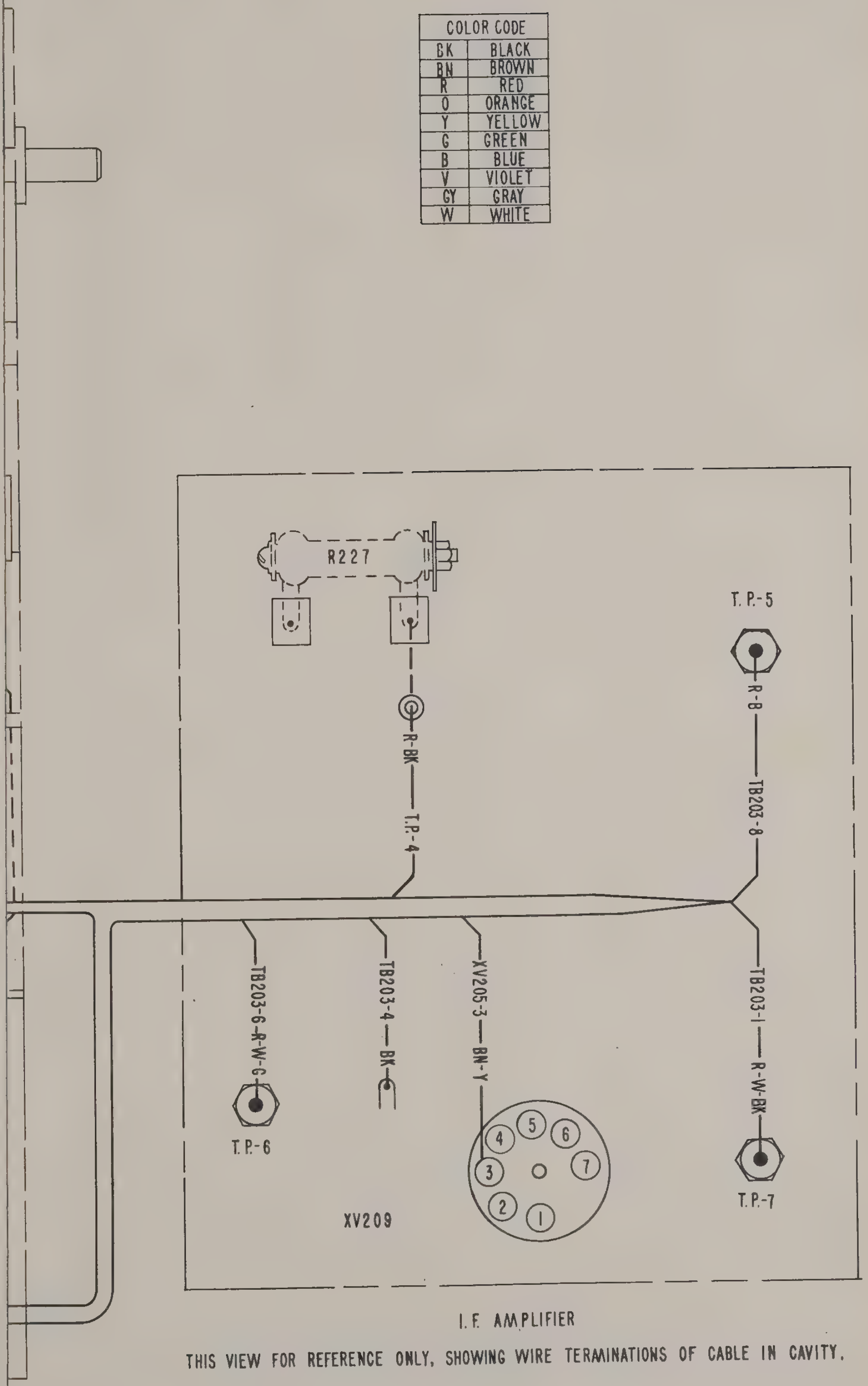
7-33. R-F Head, Drive and R-F Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-33. R-F Head, Drive and R-F Wiring Diagram

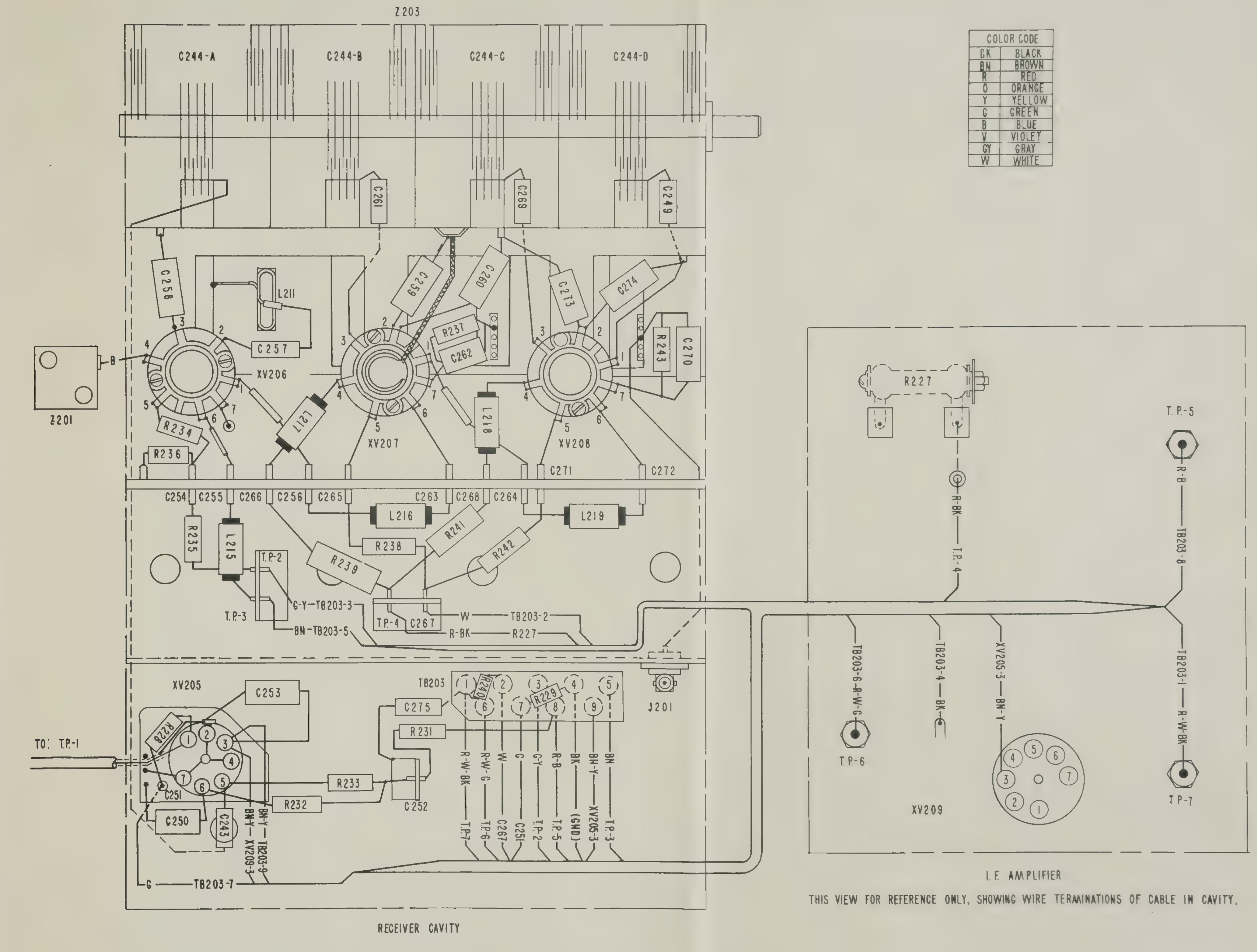
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE



I.F. AMPLIFIER

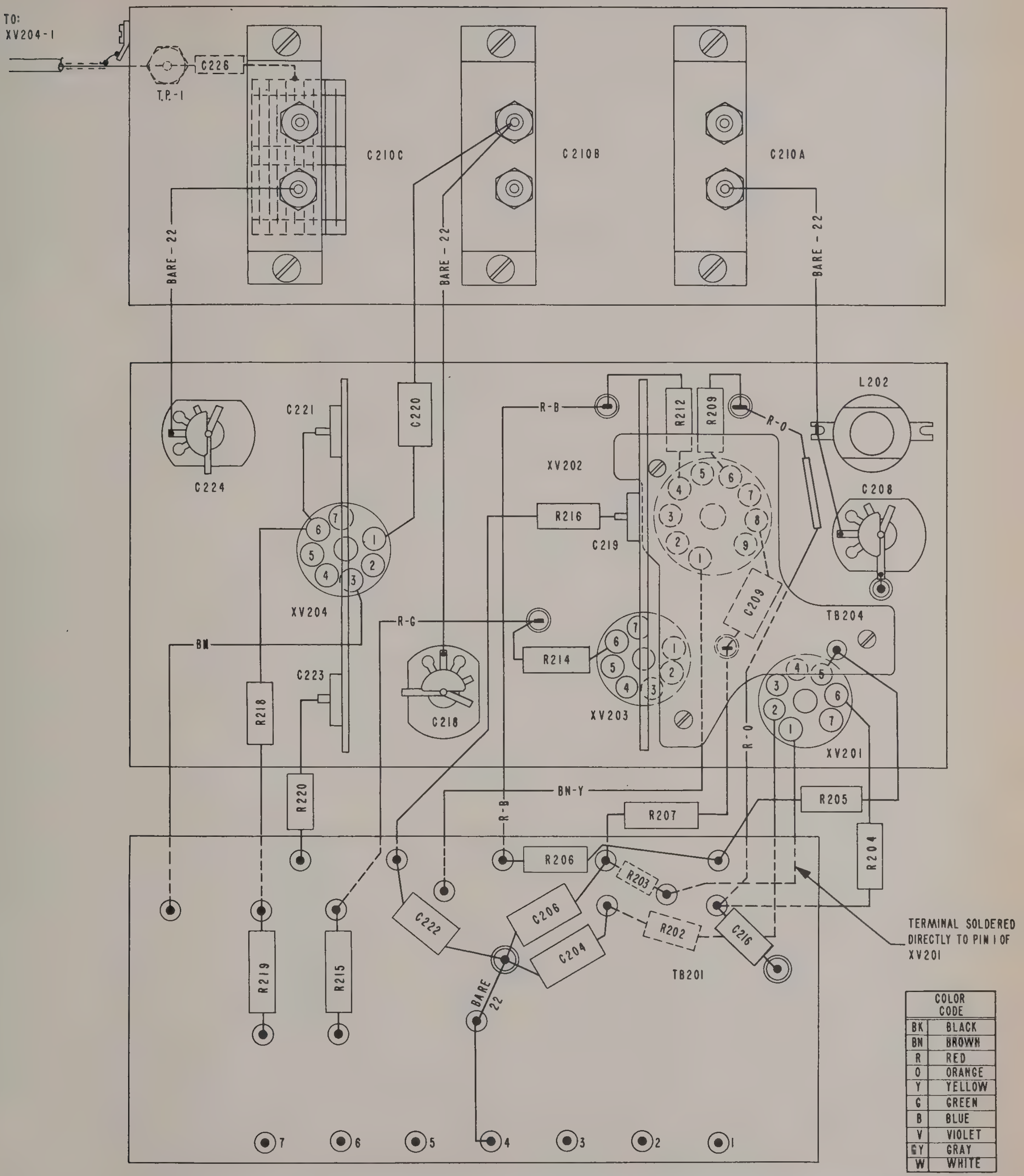
THIS VIEW FOR REFERENCE ONLY, SHOWING WIRE TERMINATIONS OF CABLE IN CAVITY.

-34. R-F Head, Receiver Cavity, Wiring Diagram



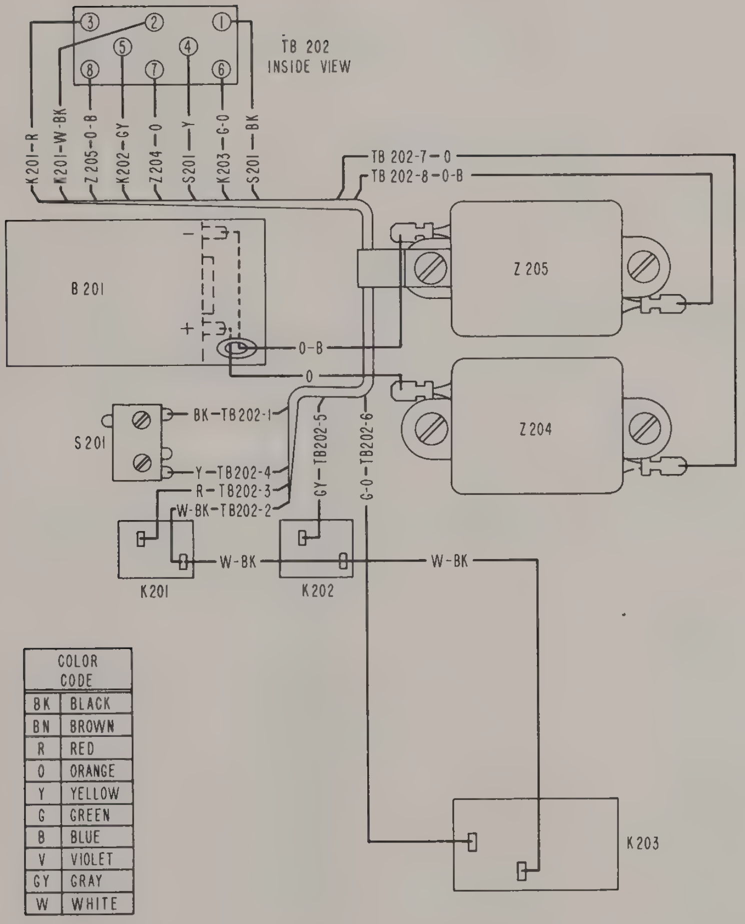
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-34. R-F Head, Receiver Cavity, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-35. R-F Head, Three-Gang Section, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-36. R-F Head, Tuning Drive, Wiring Diagram

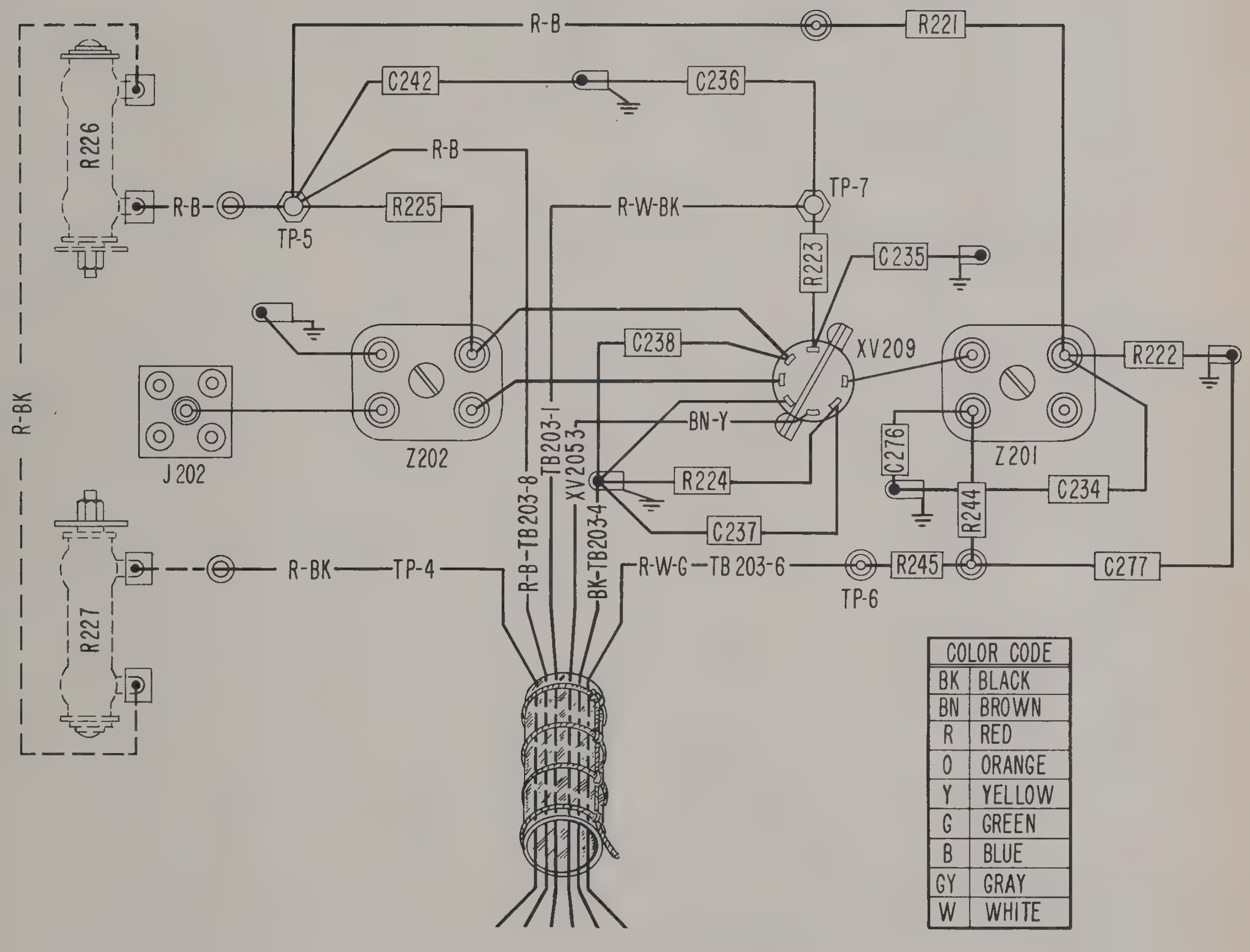
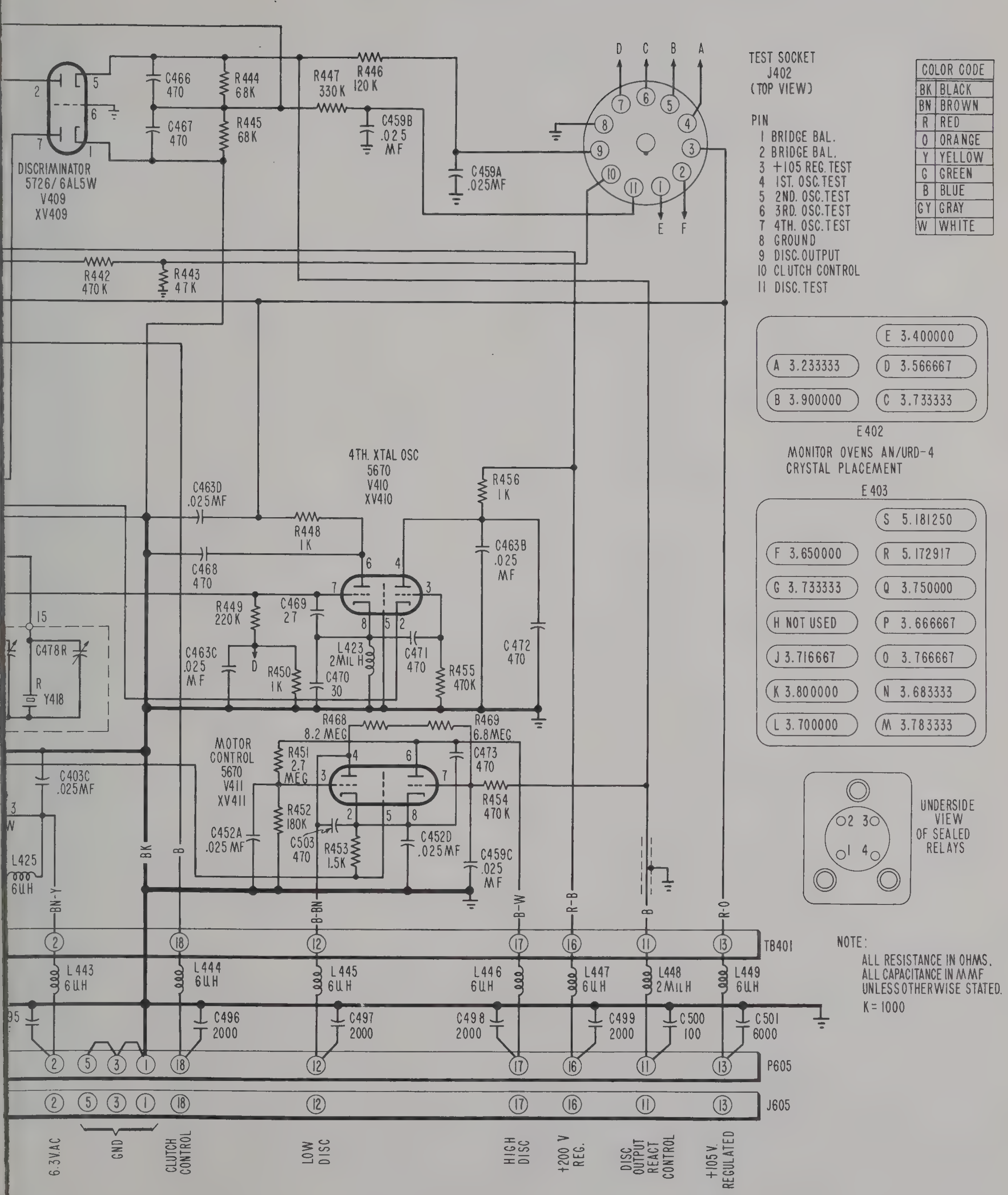


Figure 7-37. R-F Head, I-F Chassis, Wiring Diagram



TEST SOCKET
J402
(TOP VIEW)

PIN
1 BRIDGE BAL.
2 BRIDGE BAL.
3 +105 REG. TEST
4 IST. OSC. TEST
5 2ND. OSC. TEST
6 3RD. OSC. TEST
7 4TH. OSC. TEST
8 GROUND
9 DISC. OUTPUT
10 CLUTCH CONTROL
11 DISC. TEST

COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

NOTE:
ALL RESISTANCE IN OHMS.
ALL CAPACITANCE IN MMF
UNLESS OTHERWISE STATED.
K = 1000

Figure 7-38. Monitor, Schematic Diagram

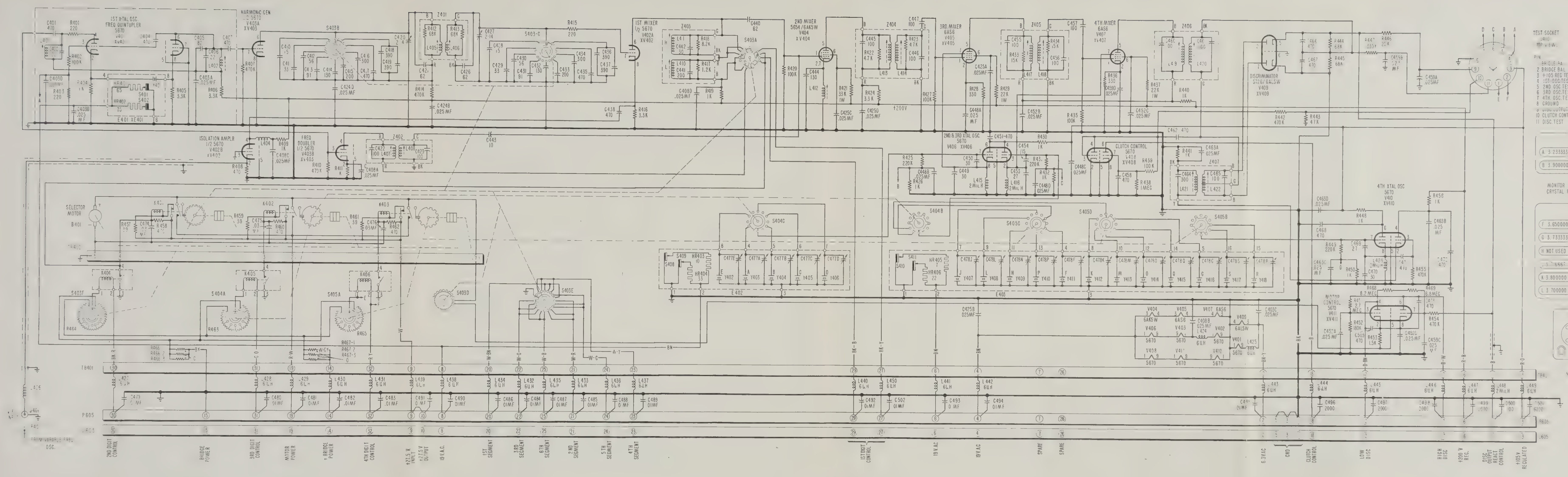
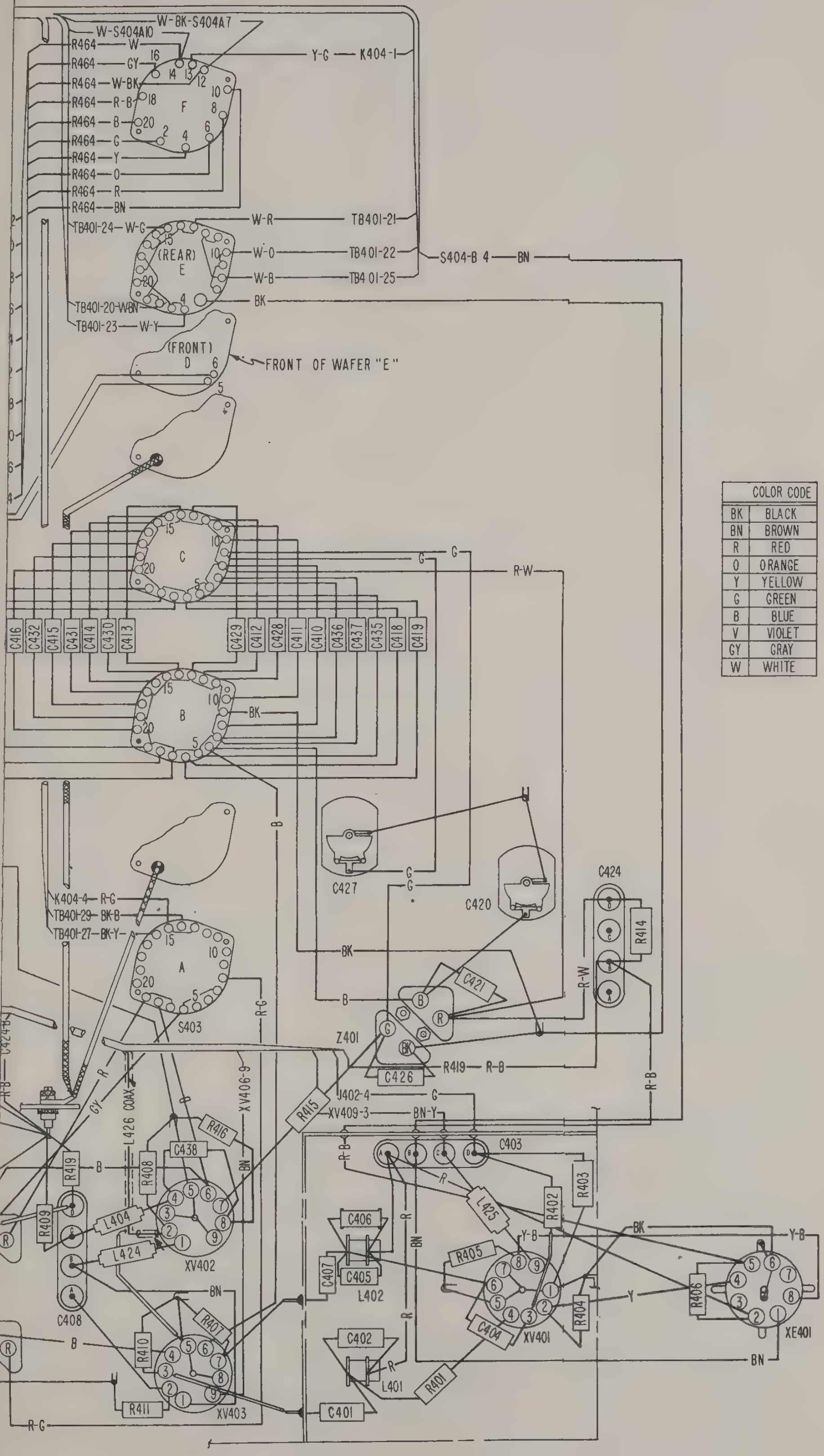
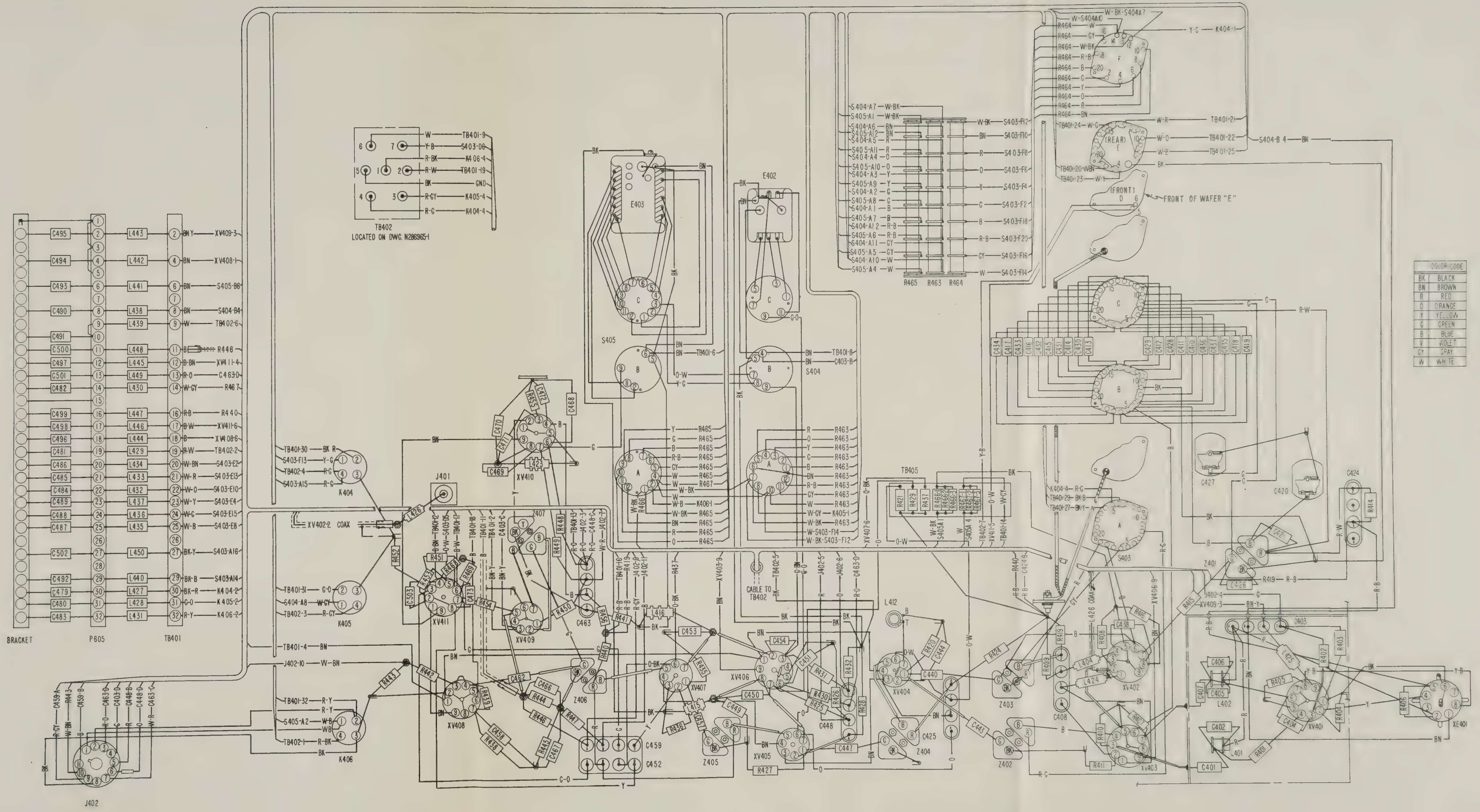


Figure 7-38. Monitor, Schematic Diagram



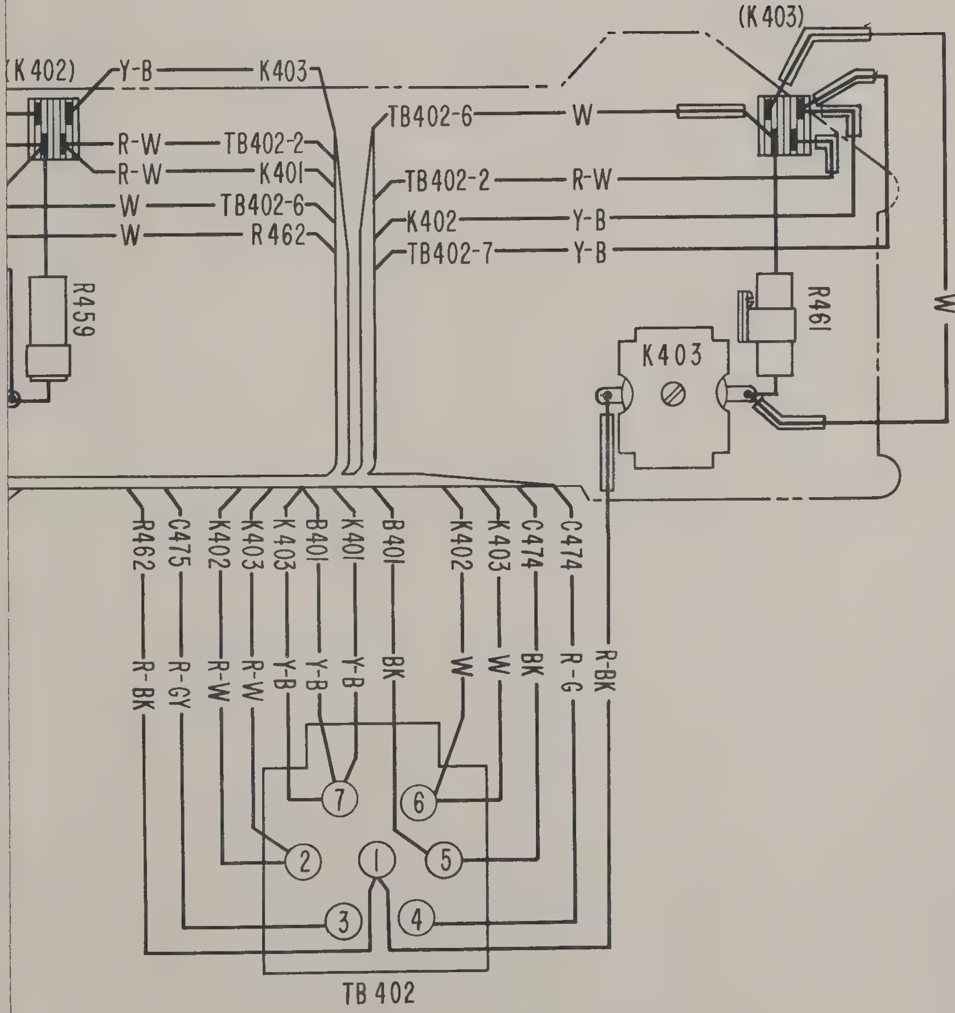
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

ure 7-39. Monitor, Wiring Diagram

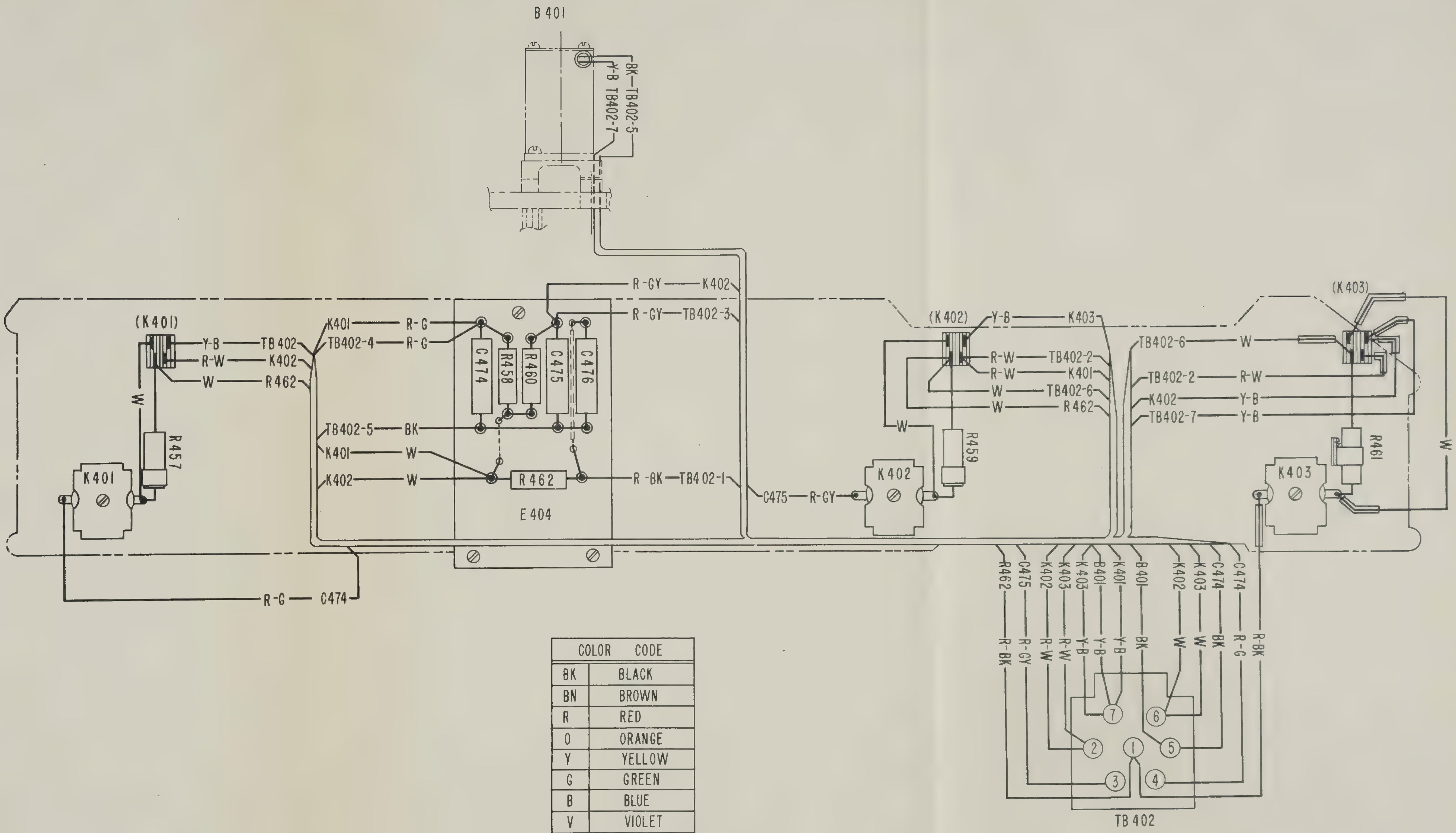


COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-39. Monitor, Wiring Diagram

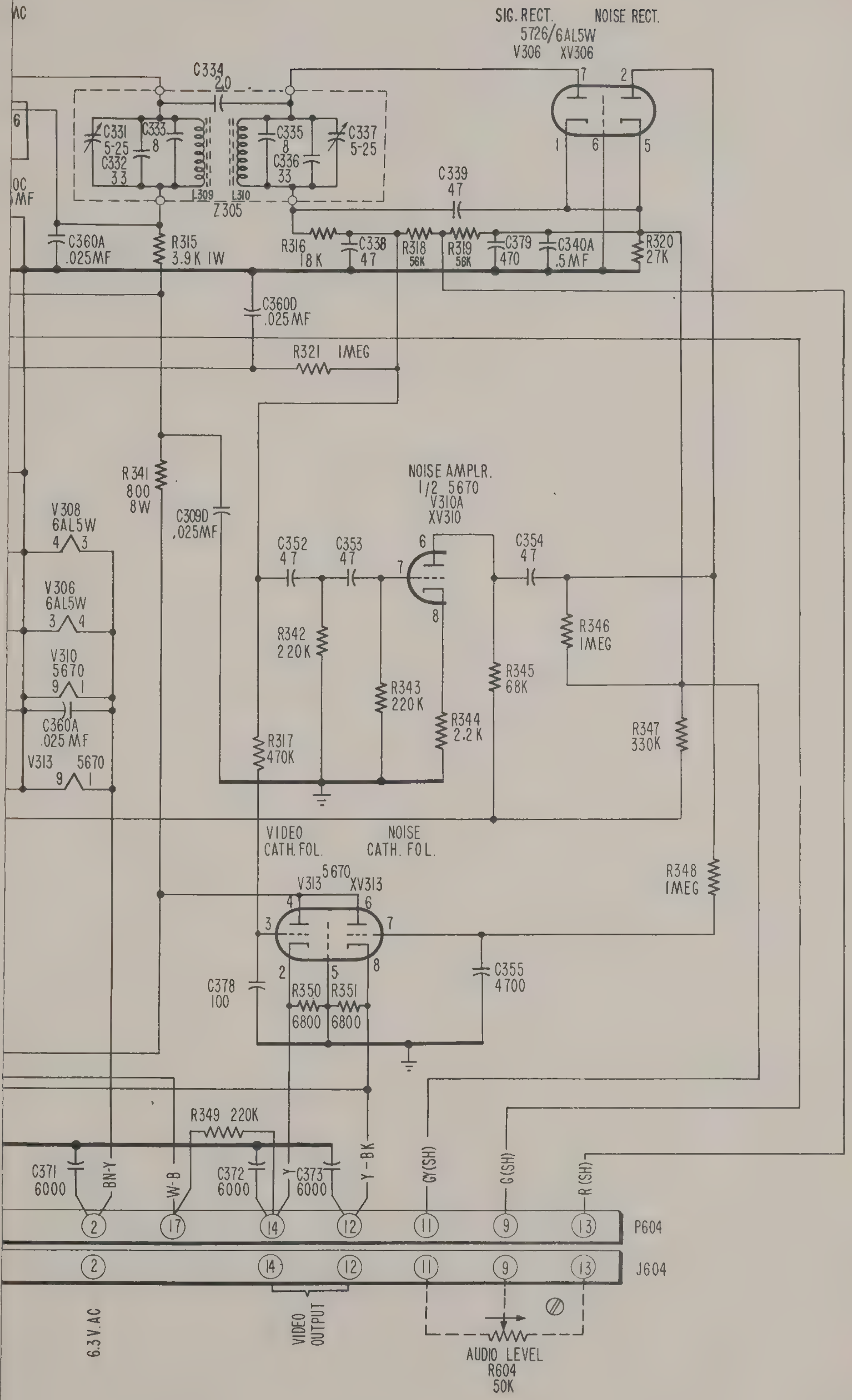


ure 7-40. Monitor Drive, Wiring Diagram

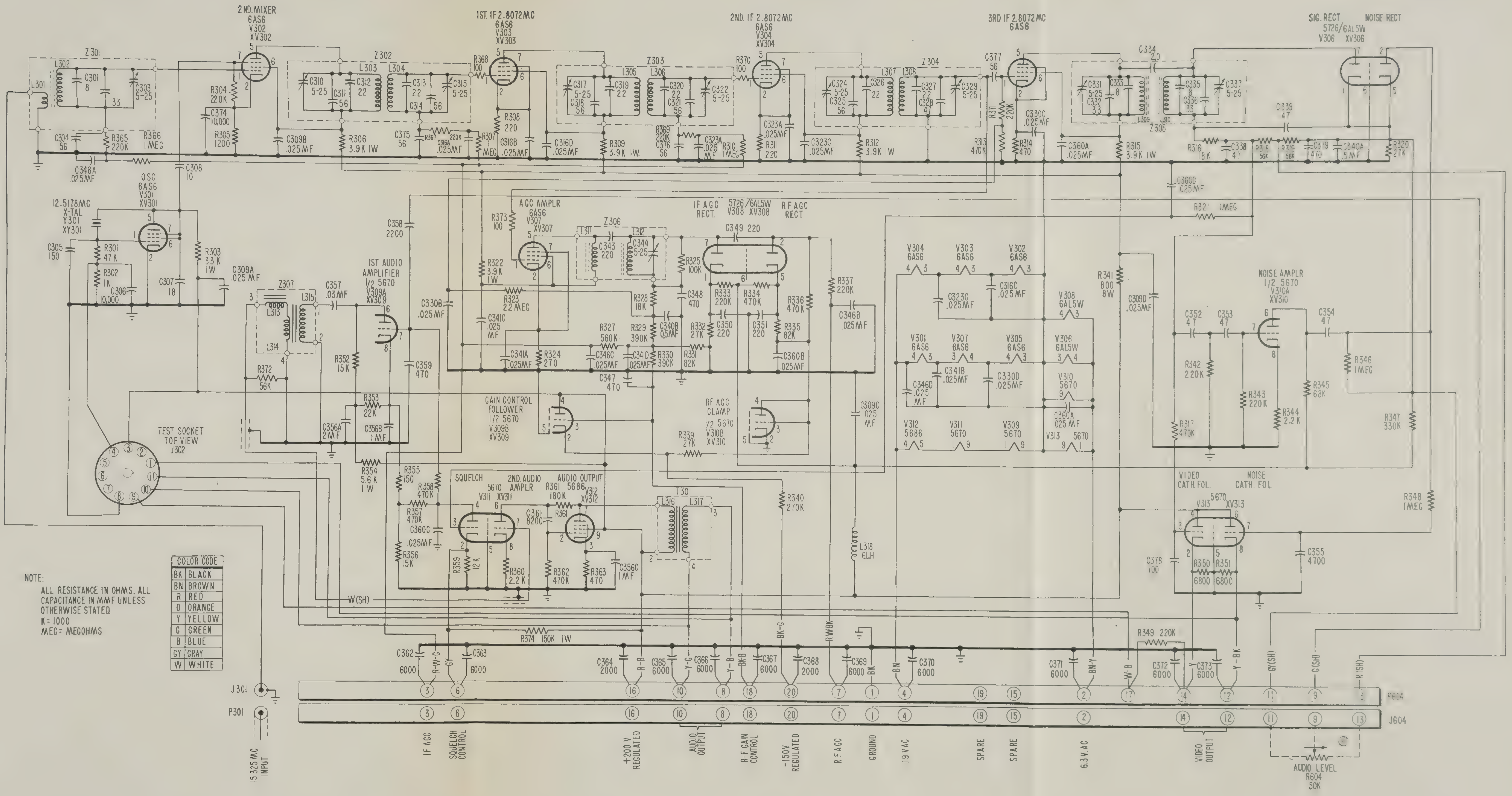


COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-40. Monitor Drive, Wiring Diagram



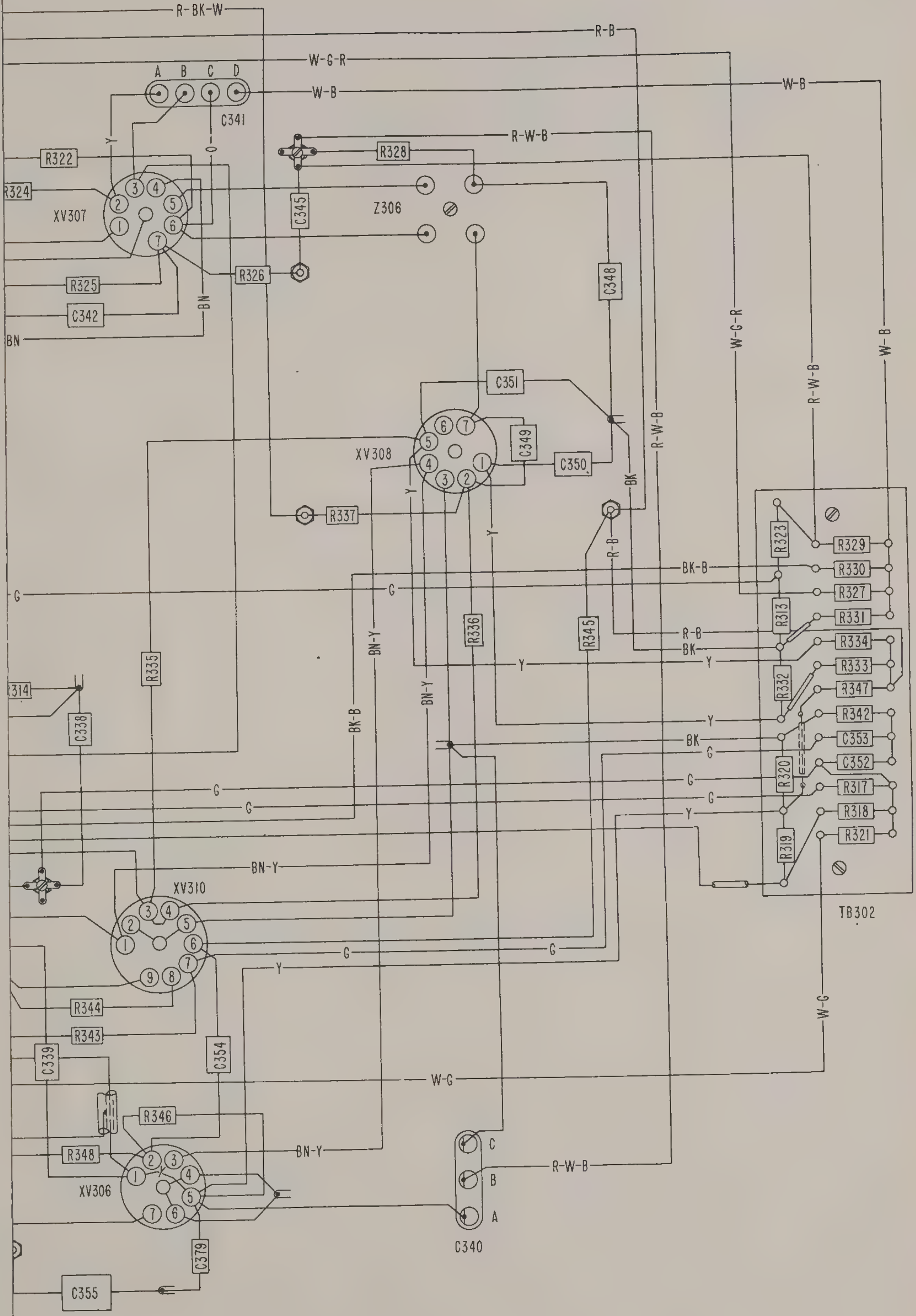
I-F Video - Audio Chassis, Schematic Diagram



NOTE:
ALL RESISTANCE IN OHMS. ALL CAPACITANCE IN MMF UNLESS OTHERWISE STATED.
K=1000
MEG= MEGOHMS

COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

Figure 7-41. I-F Video - Audio Chassis, Schematic Diagram



-42. I-F Video - Audio Chassis, Wiring Diagram

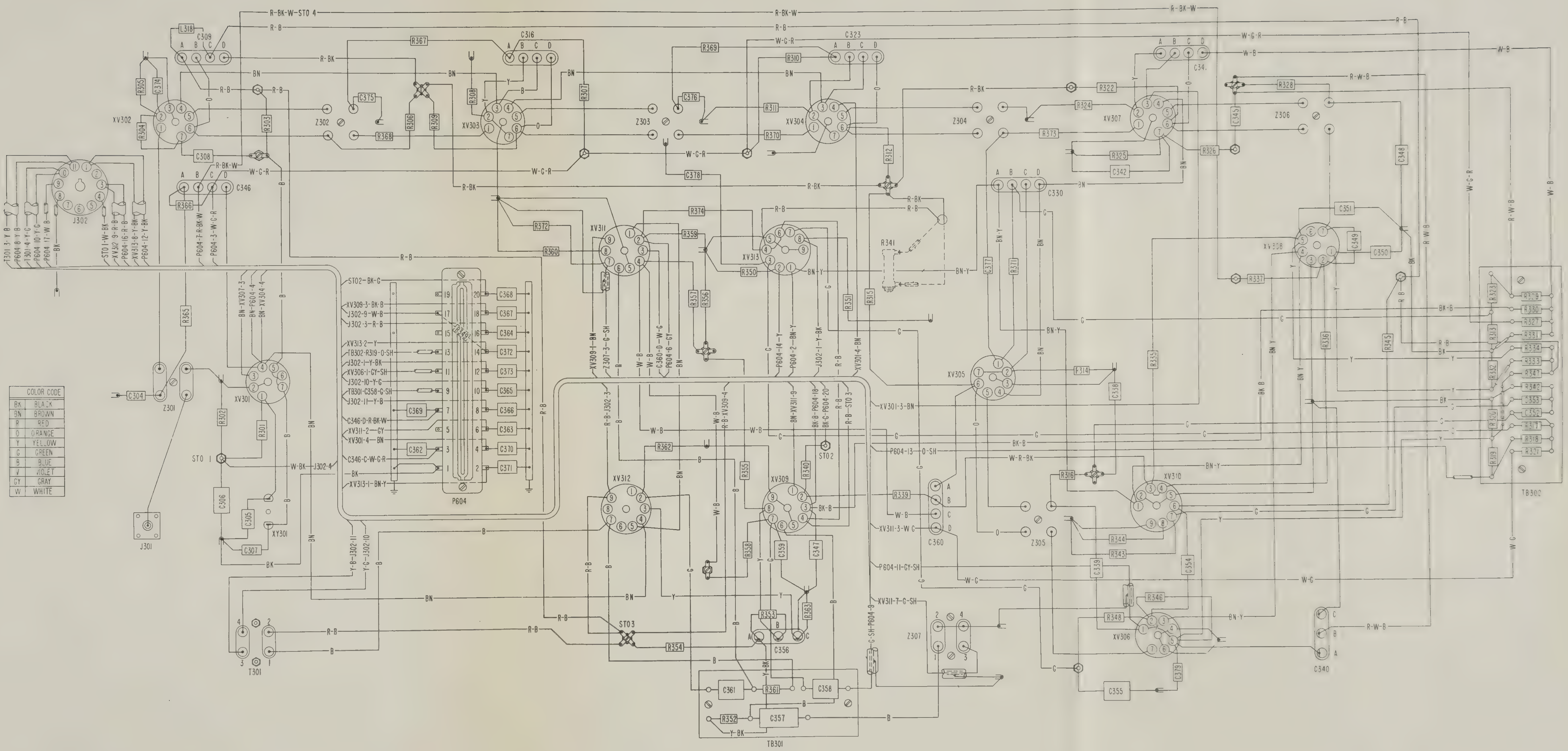
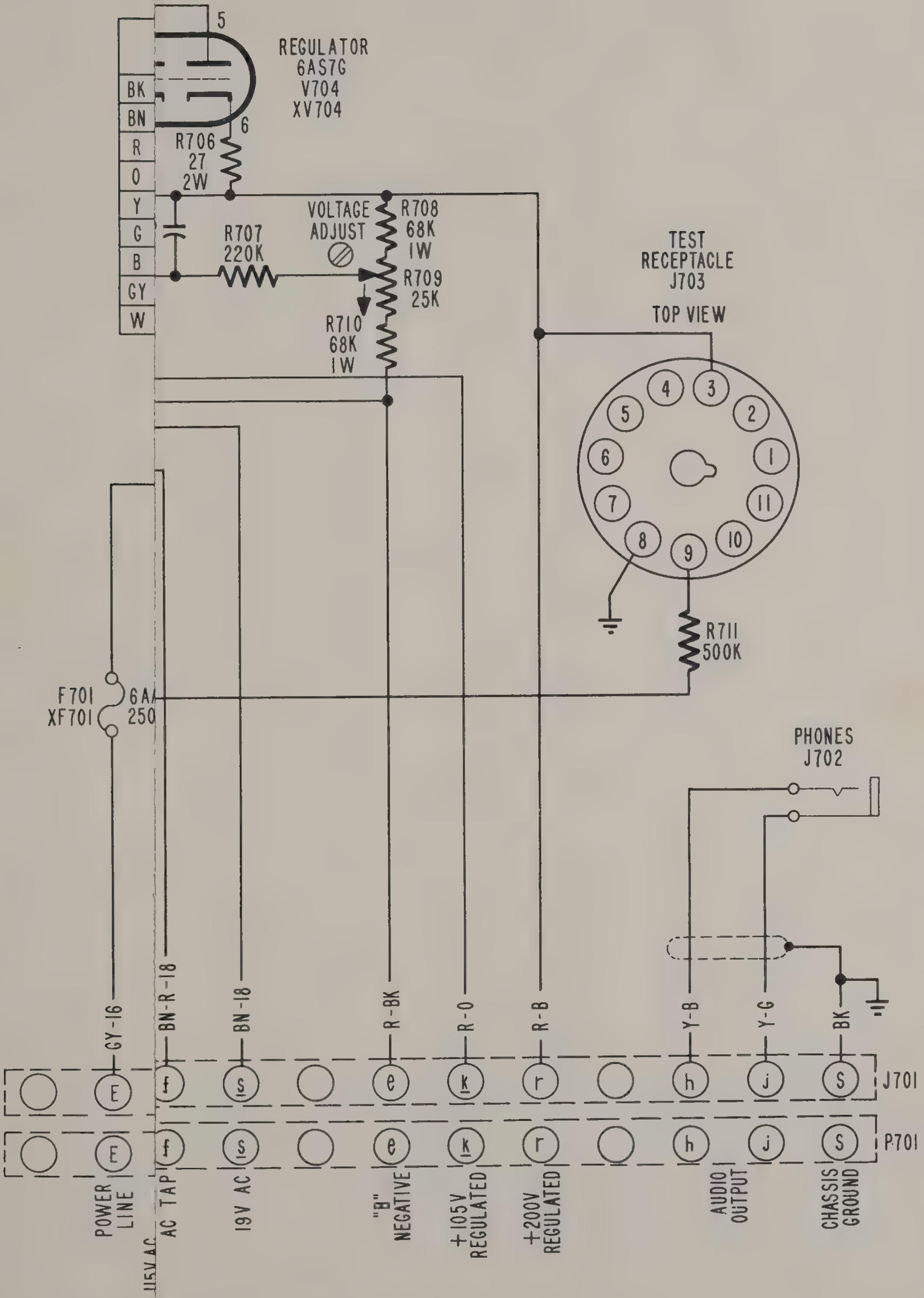


Figure 7-42. I-F Video - Audio Chassis, Wiring Diagram



Power Supply PP-556/URD-4, Schematic Diagram

COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

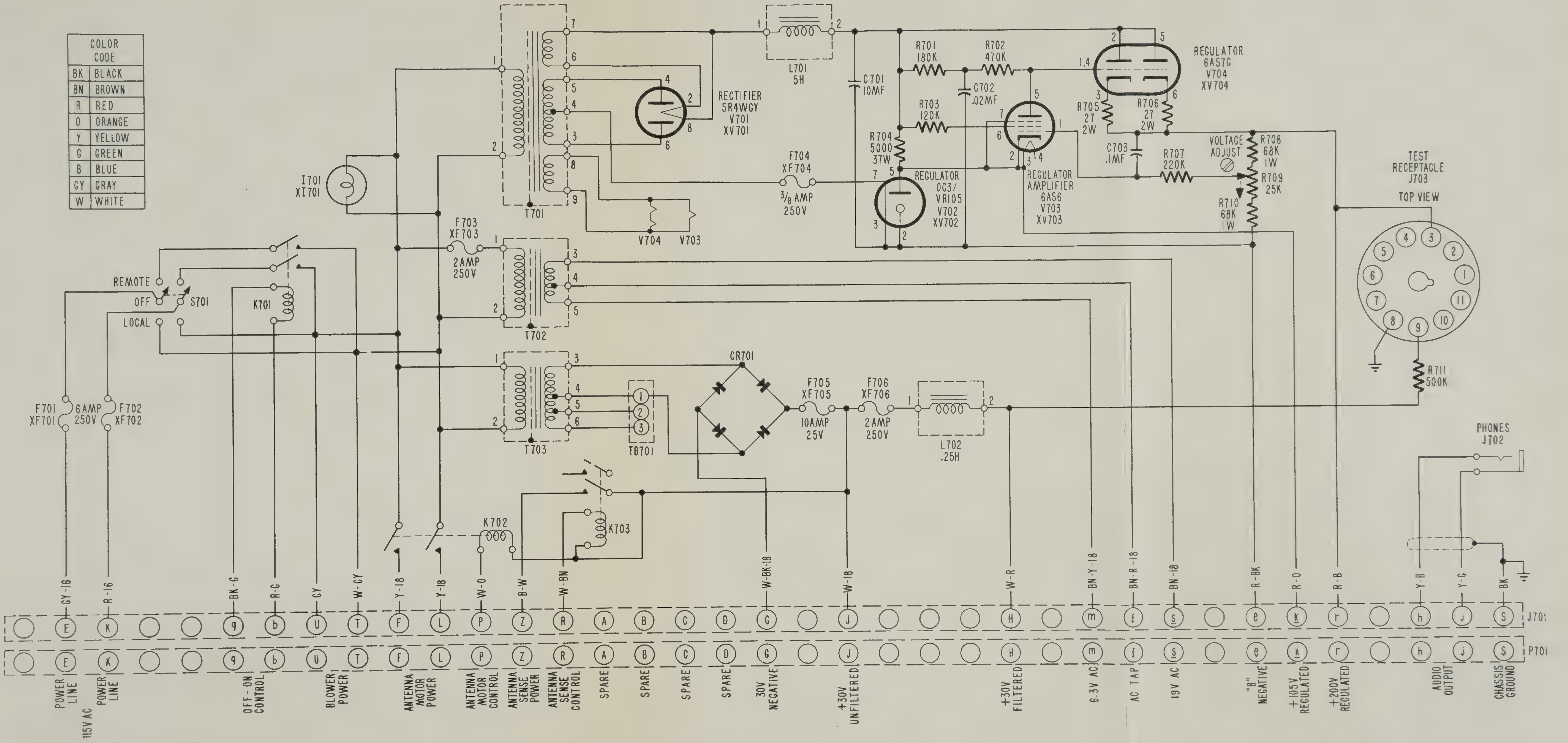
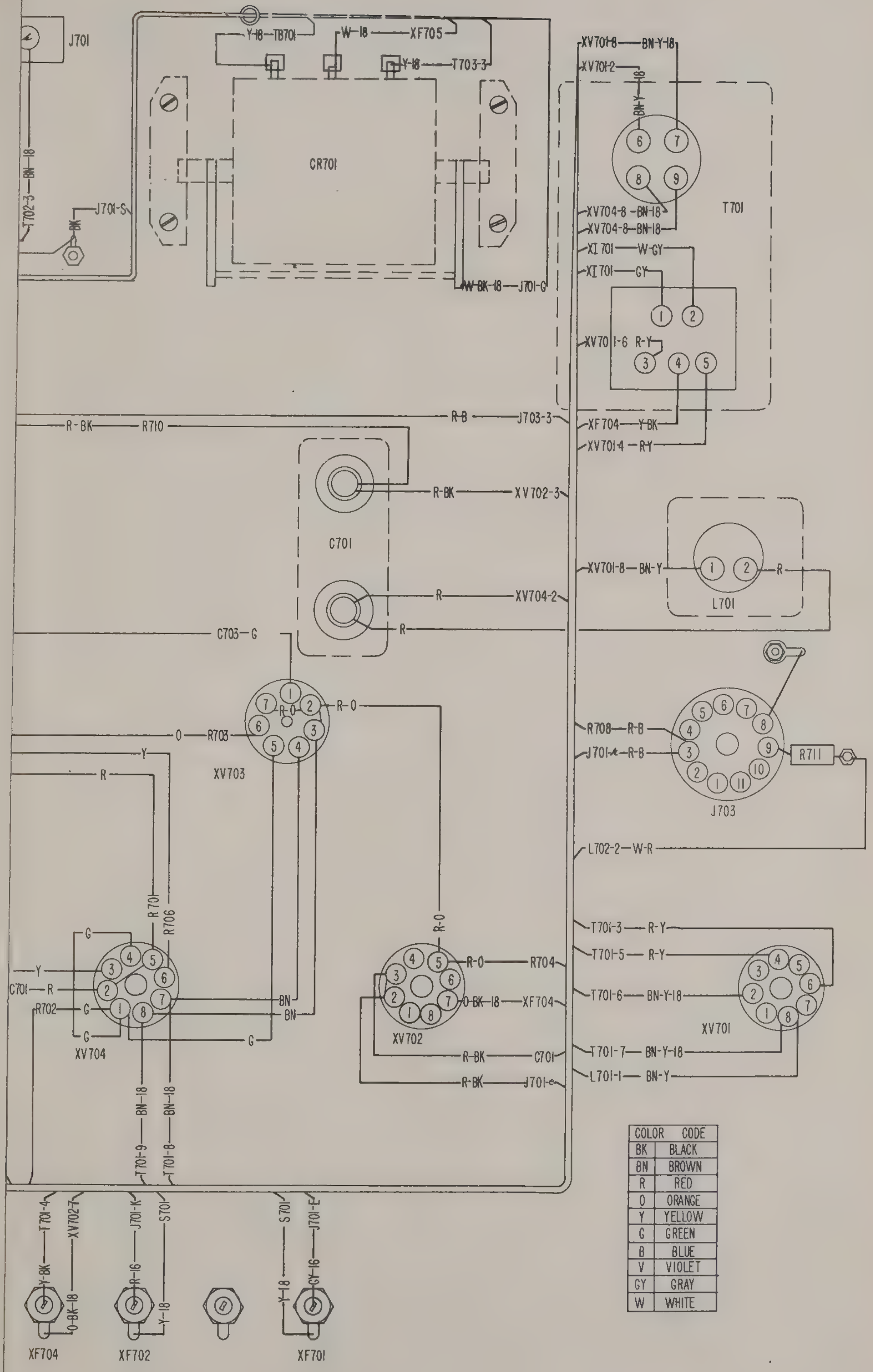
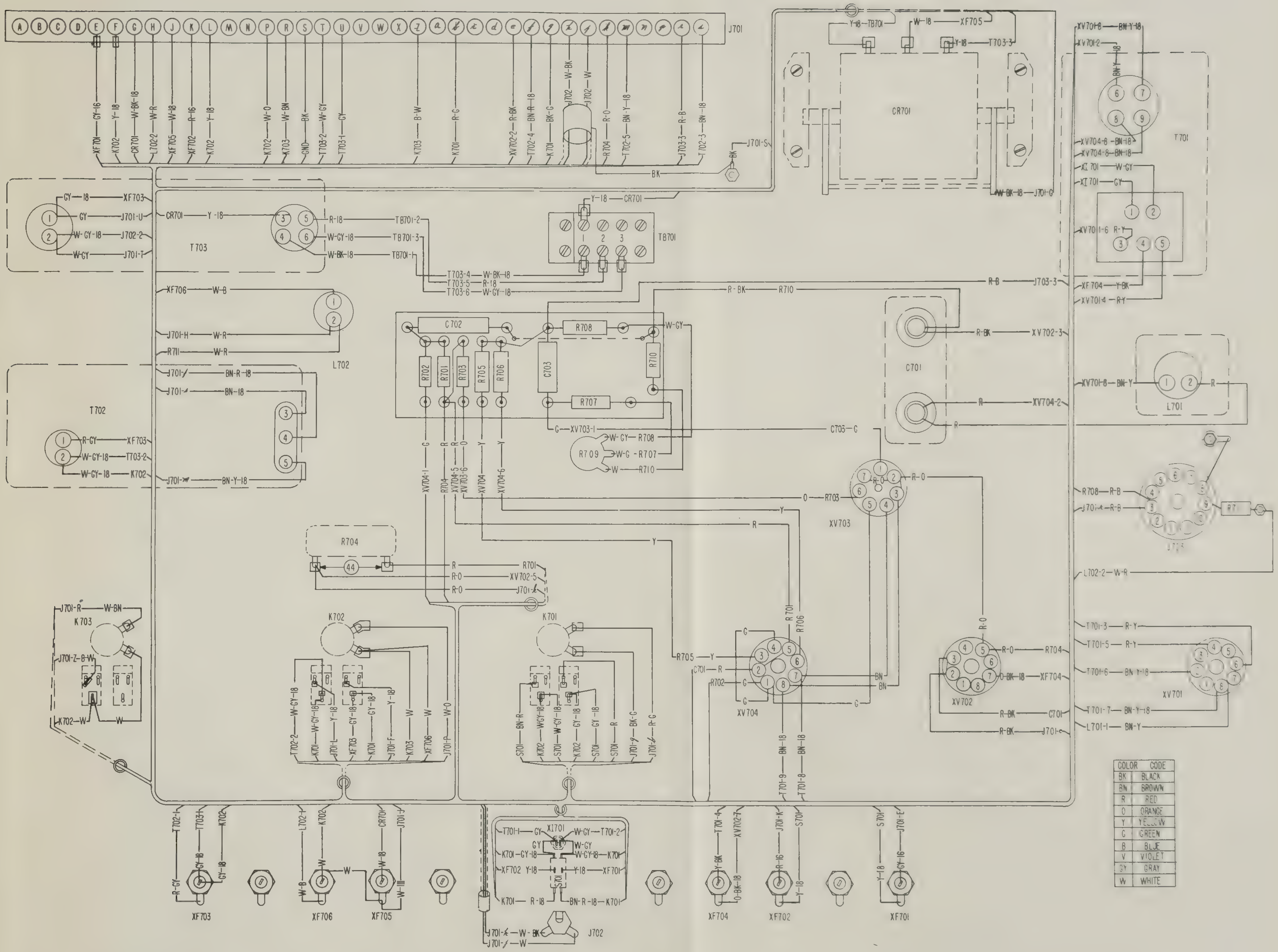


Figure 7-43. Power Supply PP-556/URD-4, Schematic Diagram



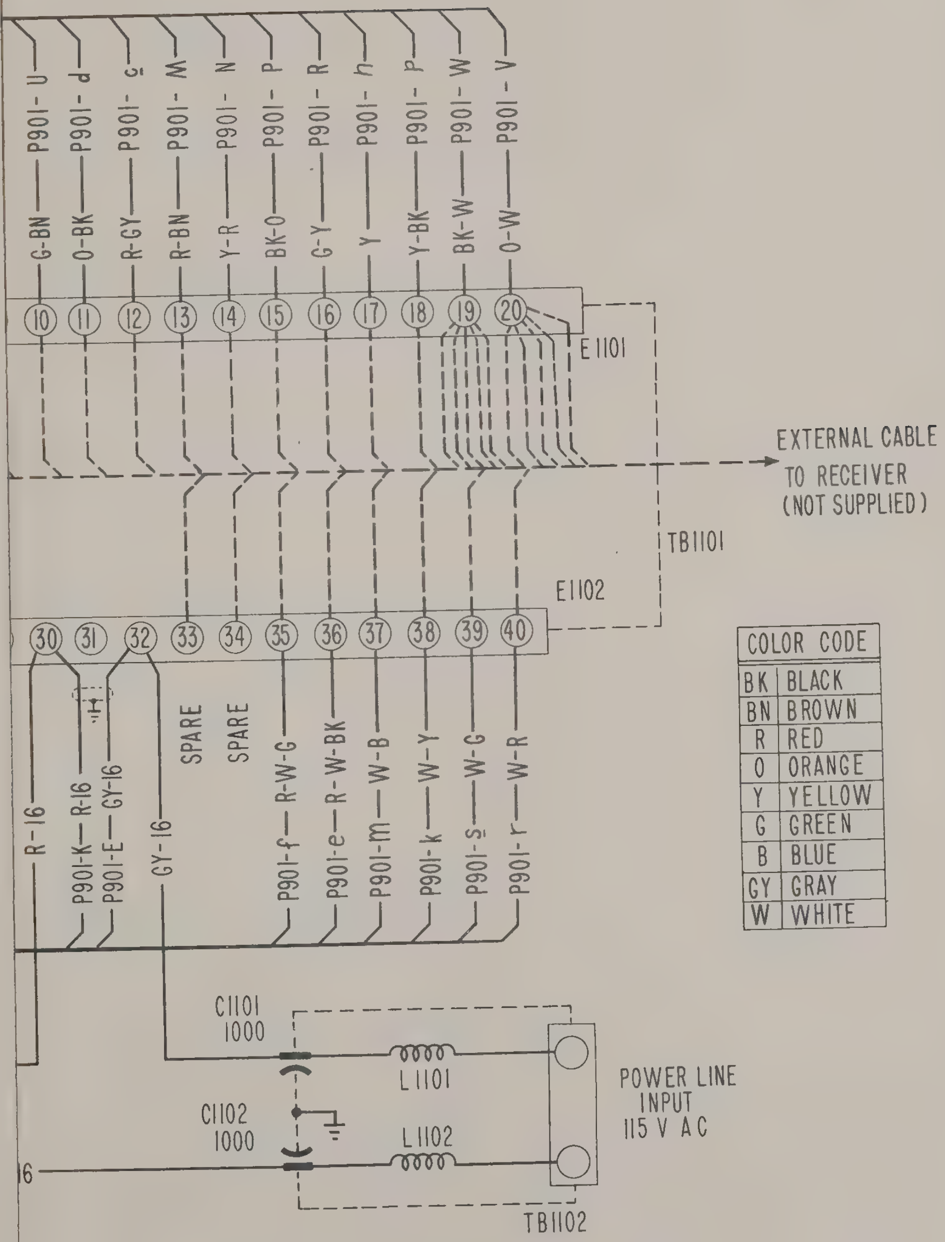
COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Power Supply PP-556/URD-4, Wiring Diagram



COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-44. Power Supply PP-556/URD-4, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

Electrical Equipment Cabinet CY-1304/URD-4,
Schematic Diagram

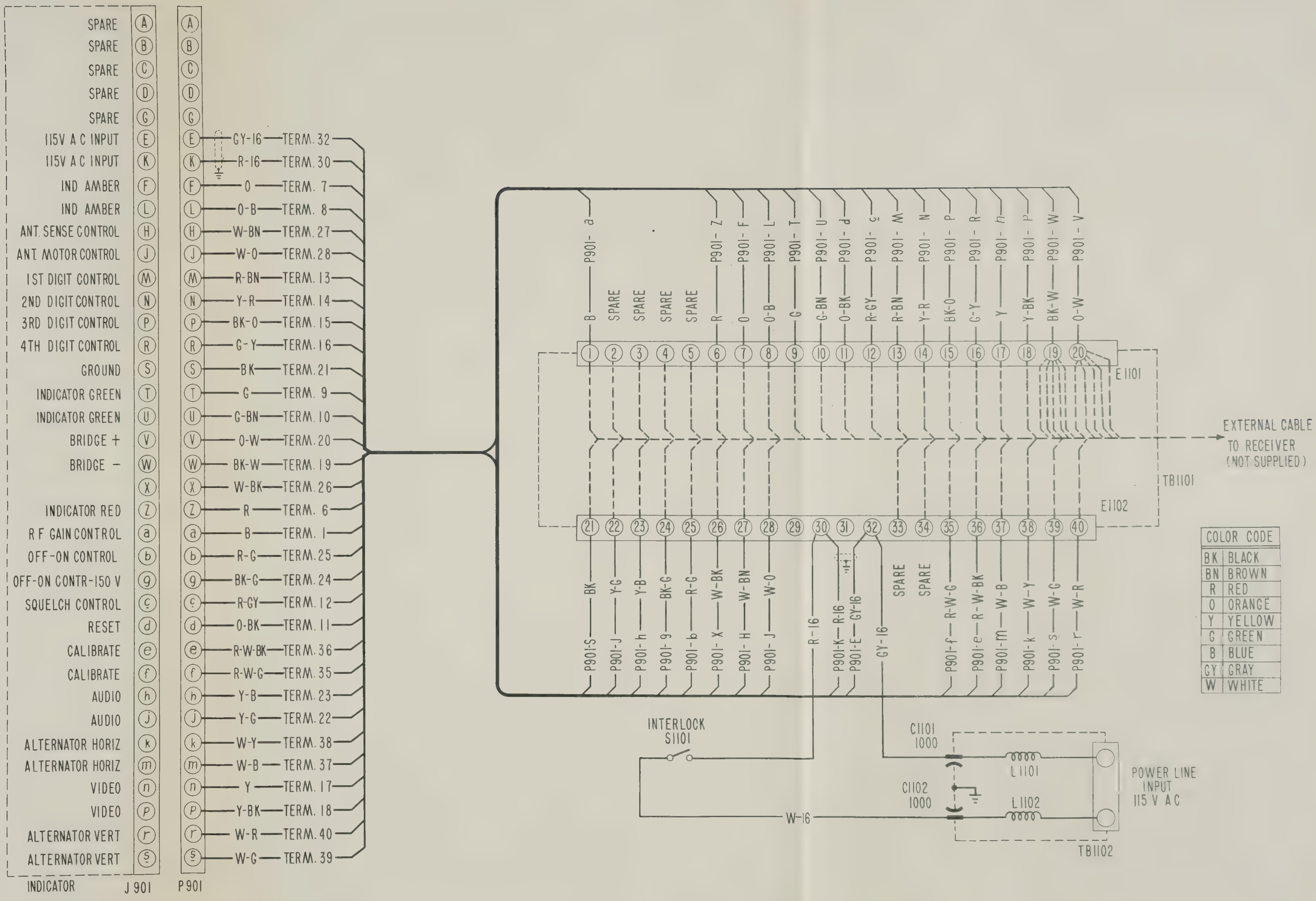
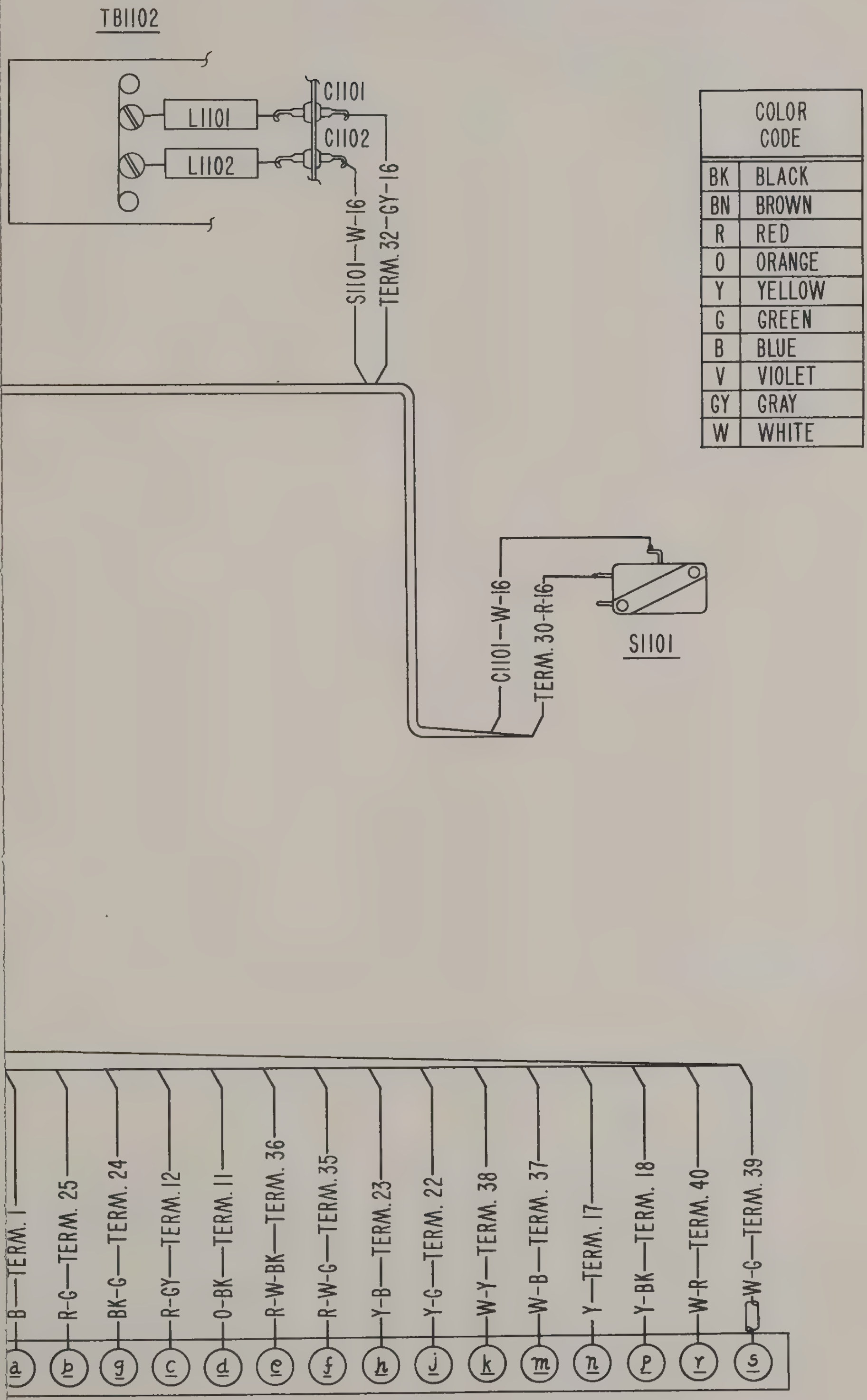
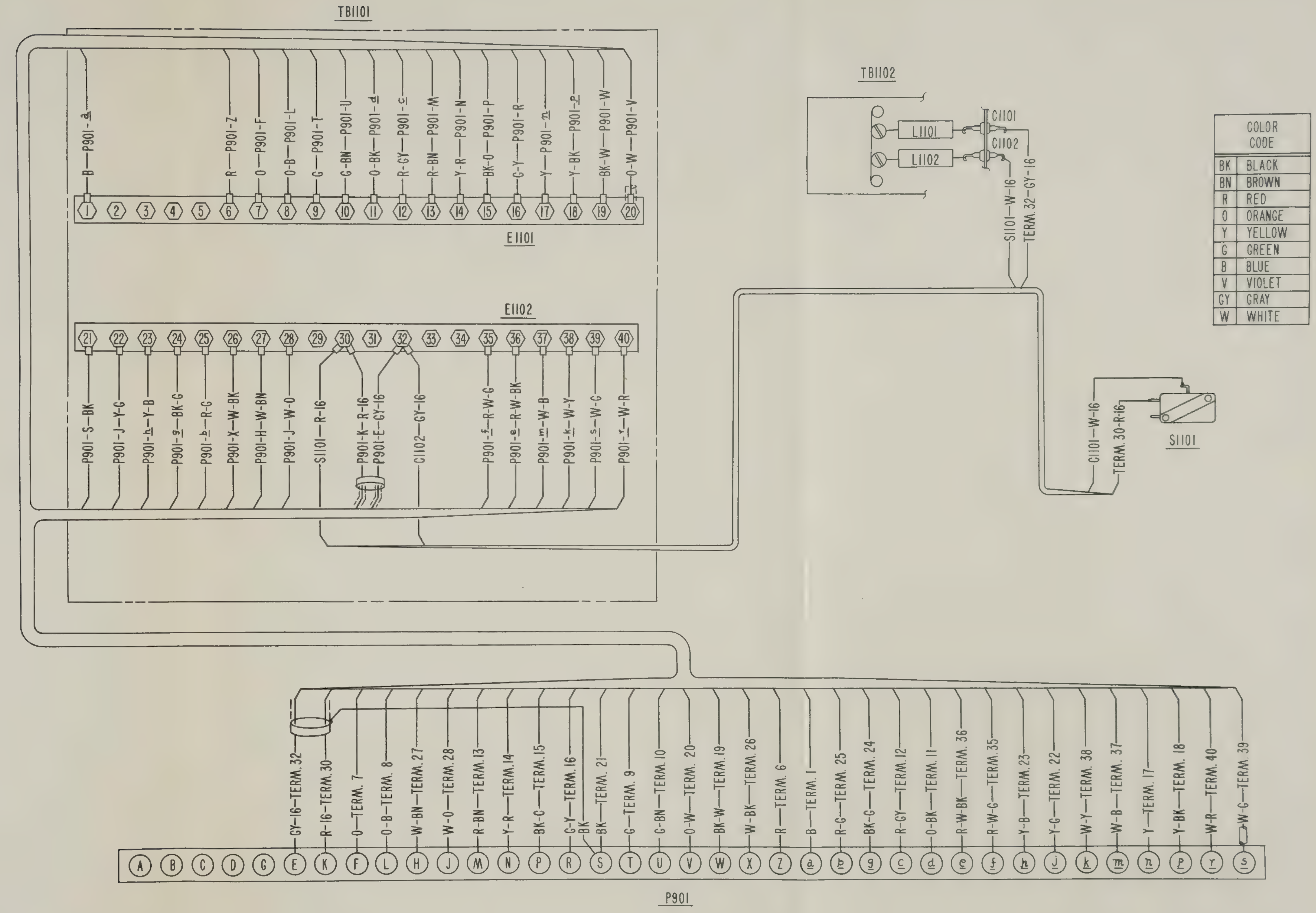

SPARE A
SPARE B
SPARE C
SPARE D
SPARE G
115V A C INPUT E — GY-16 — TERM. 32
115V A C INPUT K — R-16 — TERM. 30
IND AMBER F — O — TERM. 7
IND AMBER L — O-B — TERM. 8
ANT. SENSE CONTROL H — W-BN — TERM. 27
ANT. MOTOR CONTROL J — W-O — TERM. 28
1ST DIGIT CONTROL M — R-BN — TERM. 13
2ND DIGIT CONTROL N — Y-R — TERM. 14
3RD DIGIT CONTROL P — BK-O — TERM. 15
4TH DIGIT CONTROL R — G-Y — TERM. 16
GROUND S — BK — TERM. 21
INDICATOR GREEN T — G — TERM. 9
INDICATOR GREEN U — G-BN — TERM. 10
BRIDGE + V — O-W — TERM. 20
BRIDGE − W — BK-W — TERM. 19
X — W-BK — TERM. 26
INDICATOR RED Z — R — TERM. 6
R F GAIN CONTROL a — B — TERM. 1
OFF-ON CONTROL b — R-G — TERM. 25
OFF-ON CONTR-150 V g — BK-G — TERM. 24
SQUELCH CONTROL c — R-GY — TERM. 12
RESET d — O-BK — TERM. 11
CALIBRATE e — R-W-BK — TERM. 36
CALIBRATE f — R-W-G — TERM. 35
AUDIO h — Y-B — TERM. 23
AUDIO j — Y-G — TERM. 22
ALTERNATOR HORIZ k — W-Y — TERM. 38
ALTERNATOR HORIZ m — W-B — TERM. 37
VIDEO n — Y — TERM. 17
VIDEO p — Y-BK — TERM. 18
ALTERNATOR VERT r — W-R — TERM. 40
ALTERNATOR VERT s — W-G — TERM. 39
INDICATOR
J901
P901
1 B P901-a
2 SPARE
3 SPARE
4 SPARE
5 SPARE
6 R P901-Z
7 O P901-F
8 O-B P901-L
9 G P901-T
10 G-BN P901-U
11 O-BK P901-d
12 R-GY P901-c
13 R-BN P901-M
14 Y-R P901-N
15 BK-O P901-P
16 G-Y P901-R
17 Y P901-n
18 Y-BK P901-p
19 BK-W P901-W
20 O-W P901-V
E1101
EXTERNAL CABLE TO RECEIVER (NOT SUPPLIED)
TB1101
E1102
21 BK P901-S
22 Y-G P901-J
23 Y-B P901-h
24 BK-G P901-g
25 R-G P901-b
26 W-BK P901-X
27 W-BN P901-H
28 W-O P901-J
29
30 R-16 / R-16 P901-K
31 GY-16 P901-E
32 GY-16
33 SPARE
34 SPARE
35 R-W-G P901-f
36 R-W-BK P901-e
37 W-B P901-m
38 W-Y P901-k
39 W-G P901-s
40 W-R P901-r
INTERLOCK S1101
C1101 1000
C1102 1000
L1101
L1102
W-16
POWER LINE INPUT 115 V A C
TB1102
COLOR CODE
BK BLACK
BN BROWN
R RED
O ORANGE
Y YELLOW
G GREEN
B BLUE
GY GRAY
W WHITE

Figure 7-45. Electrical Equipment Cabinet CY-1304/URD-4, Schematic Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Electrical Equipment Cabinet CY-1304/URD-4,
Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-46. Electrical Equipment Cabinet CY-1304/URD-4, Wiring Diagram

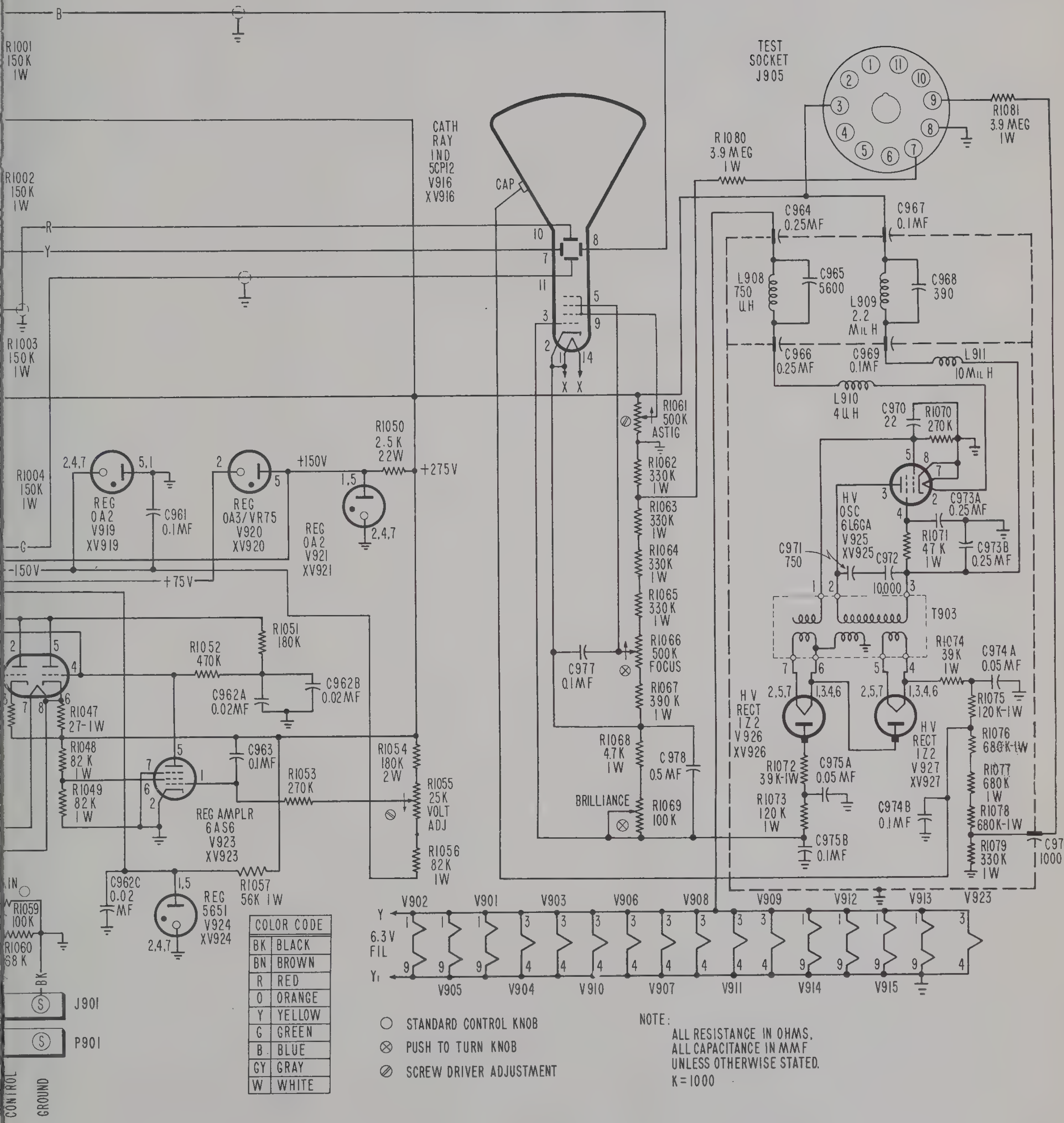


Figure 7-47. Azimuth Indicator IP-93/URD-4, Schematic Diagram

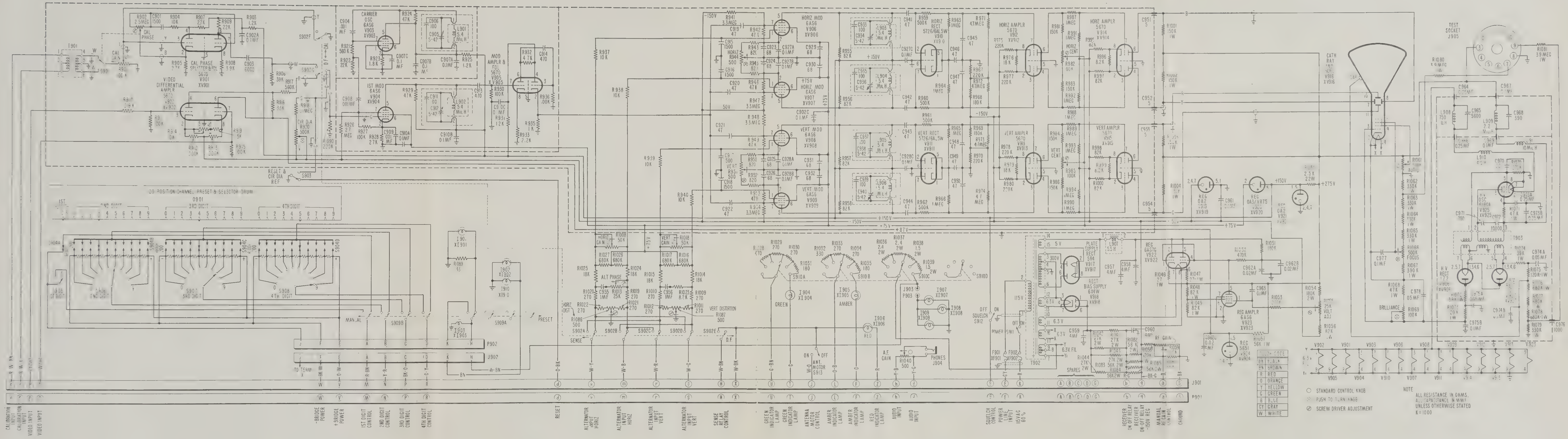
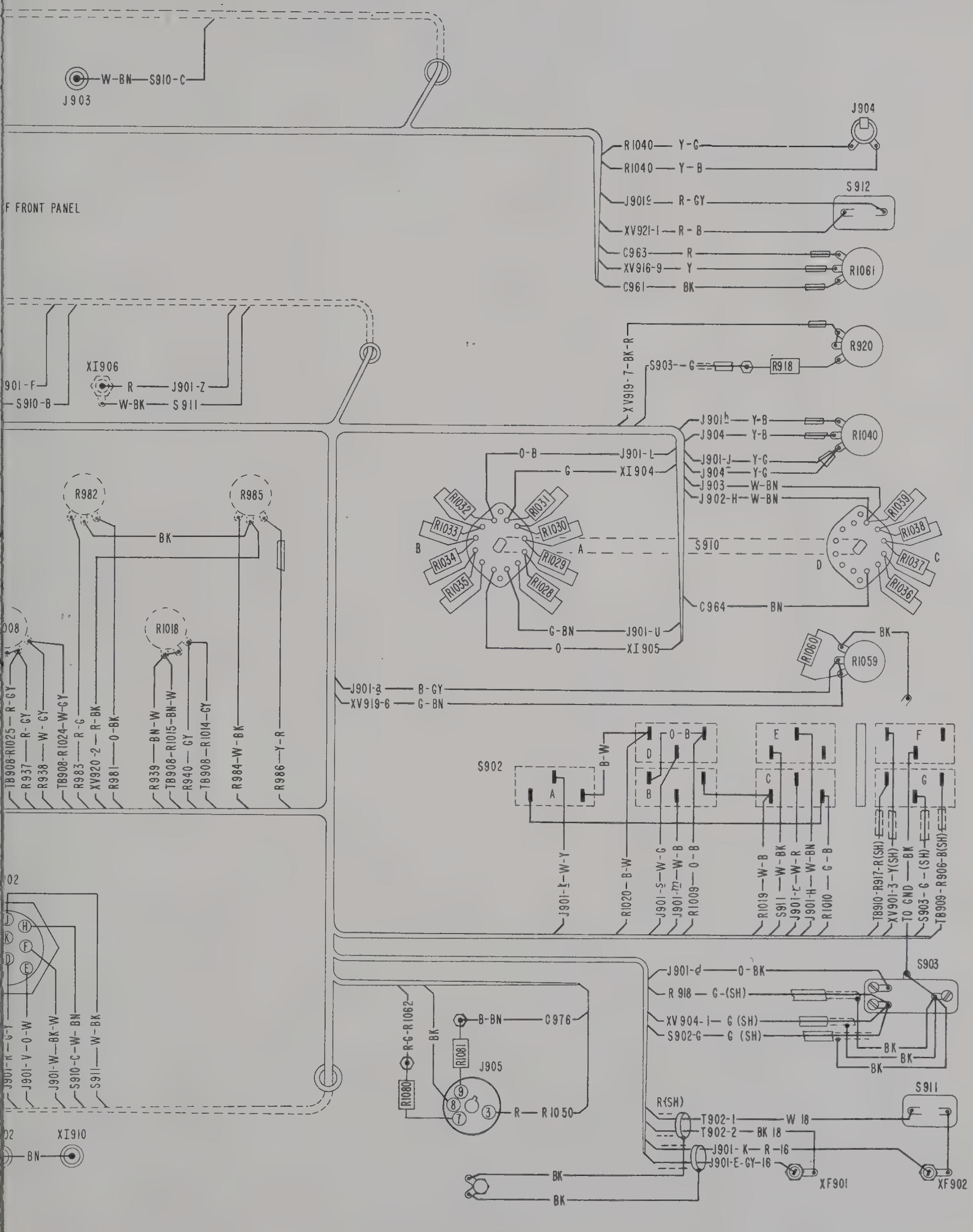


Figure 7-47. Azimuth Indicator IP-93/URD-4, Schematic Diagram



COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-48. Azimuth Indicator IP-93/URD-4, Wiring Diagram

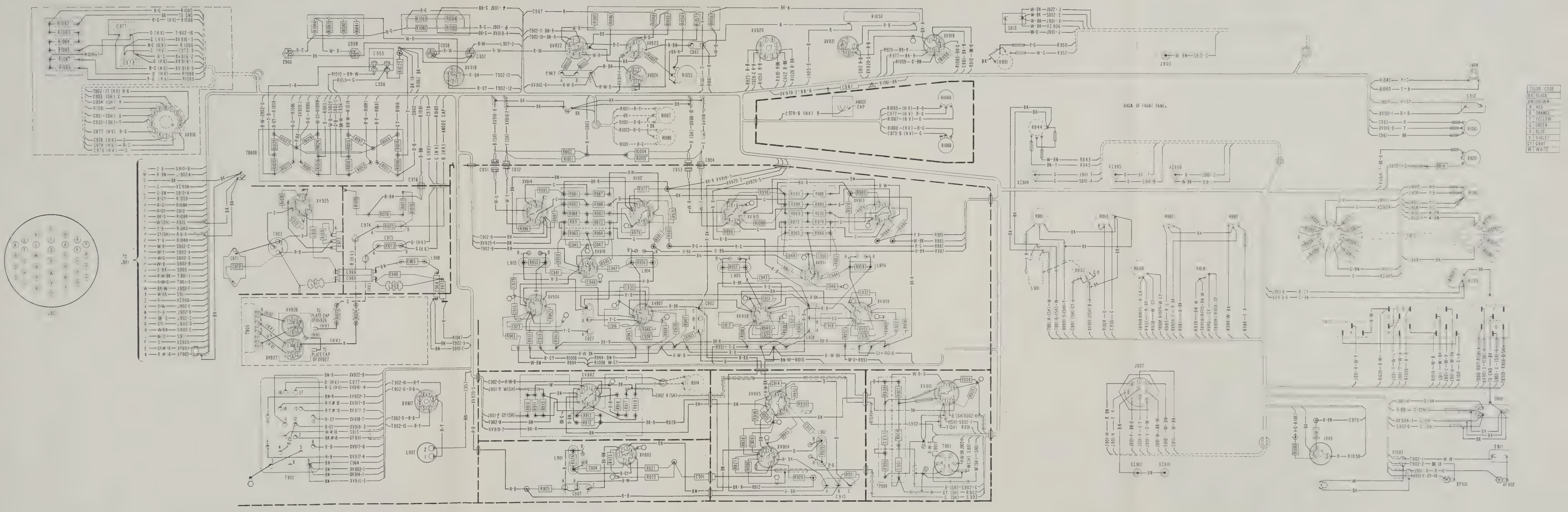
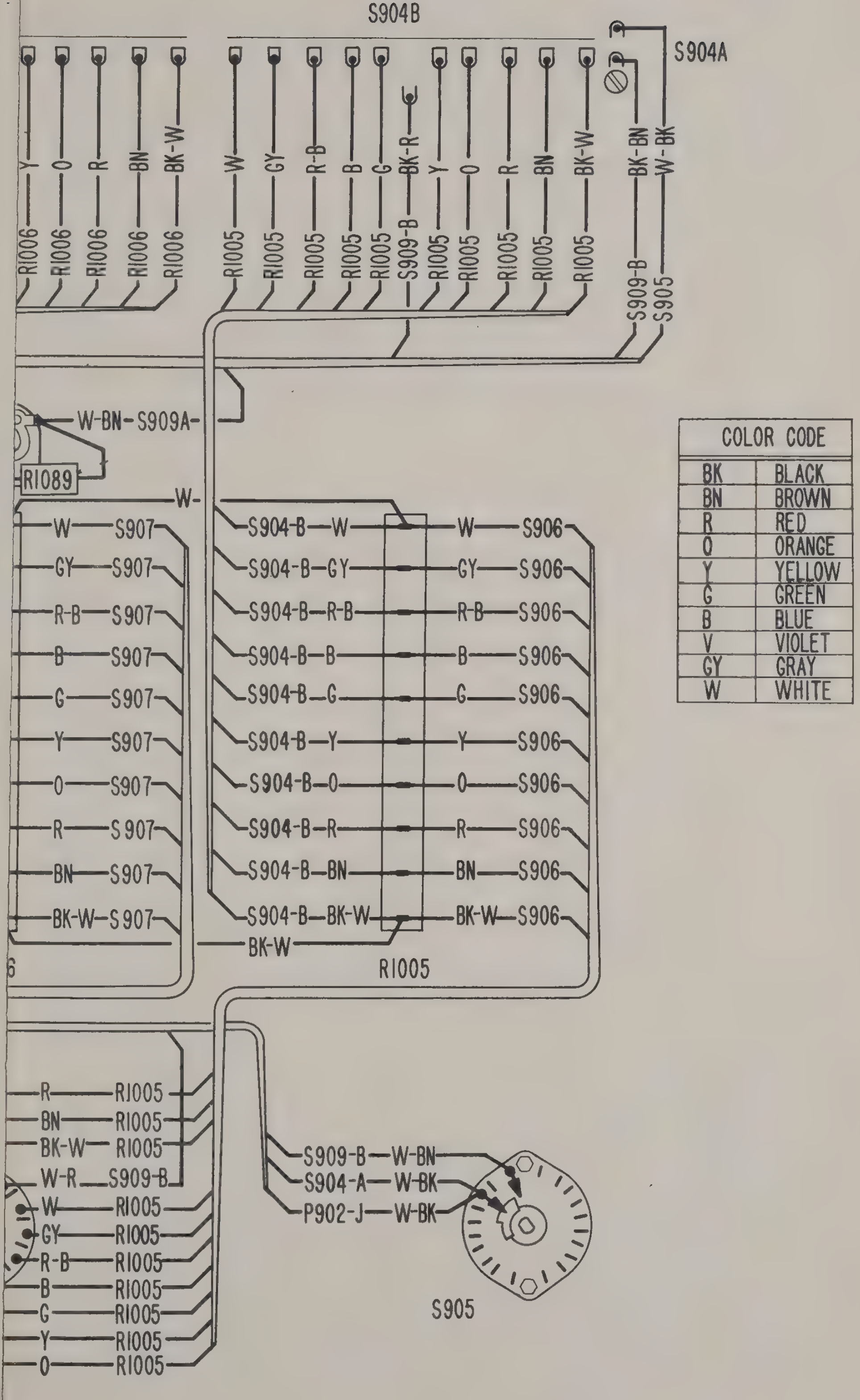
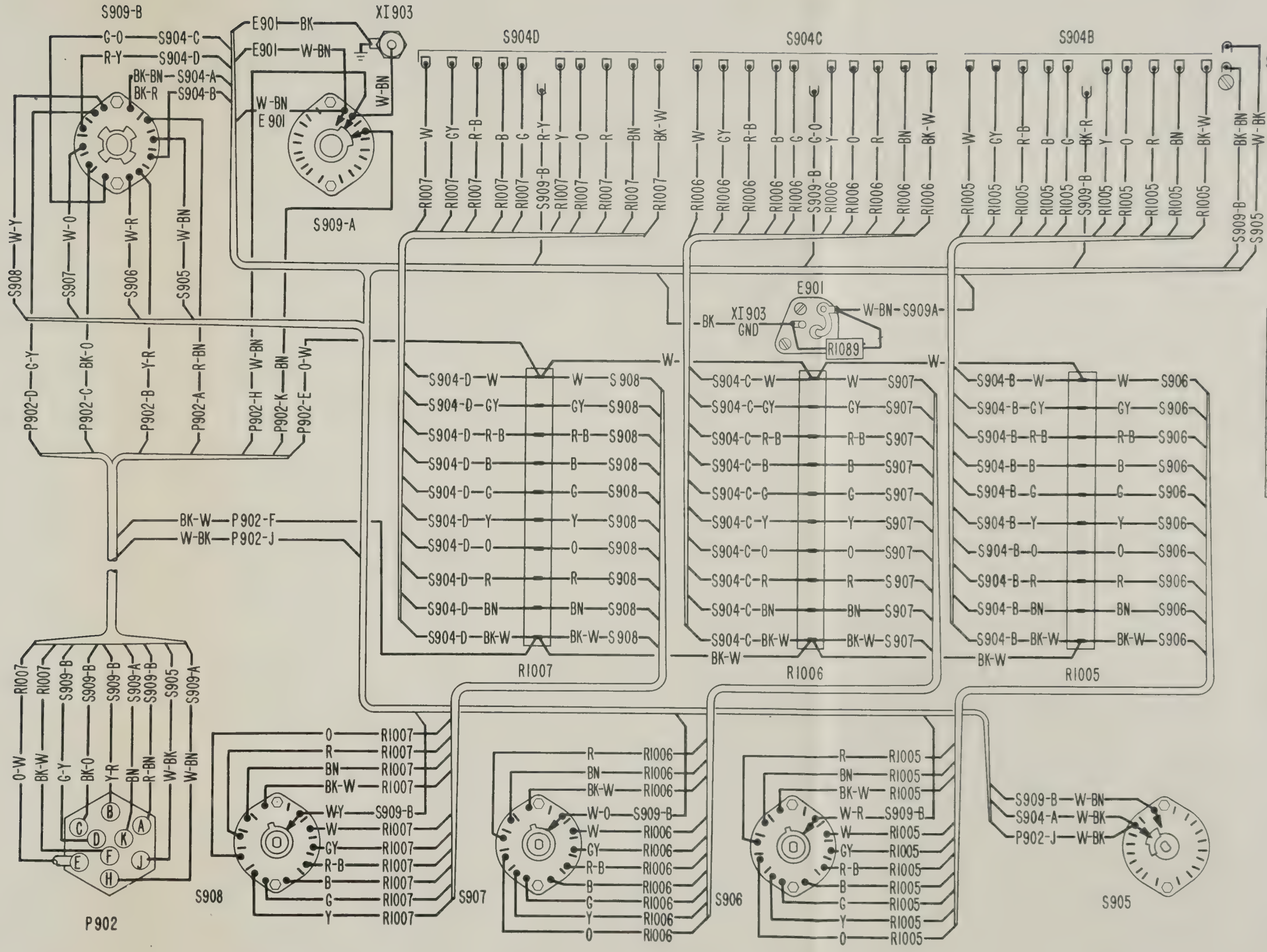


Figure 7-48. Azimuth Indicator IP-93/URD-4, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Azimuth Indicator IP-93/URD-4, Selector Switch Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-49. Azimuth Indicator IP-93/URD-4, Selector Switch Wiring Diagram

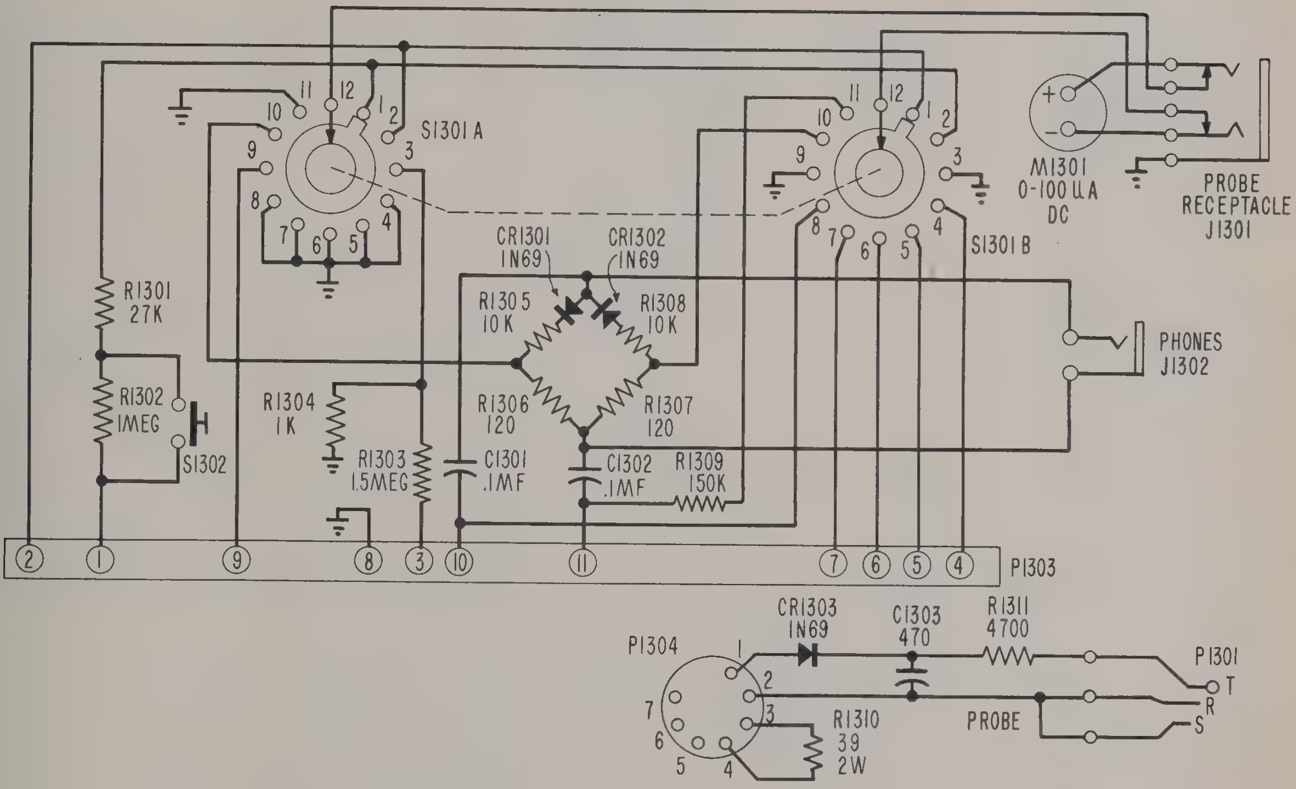


Figure 7-50. Radio Test Set TS-777/URD-4, Schematic Diagram

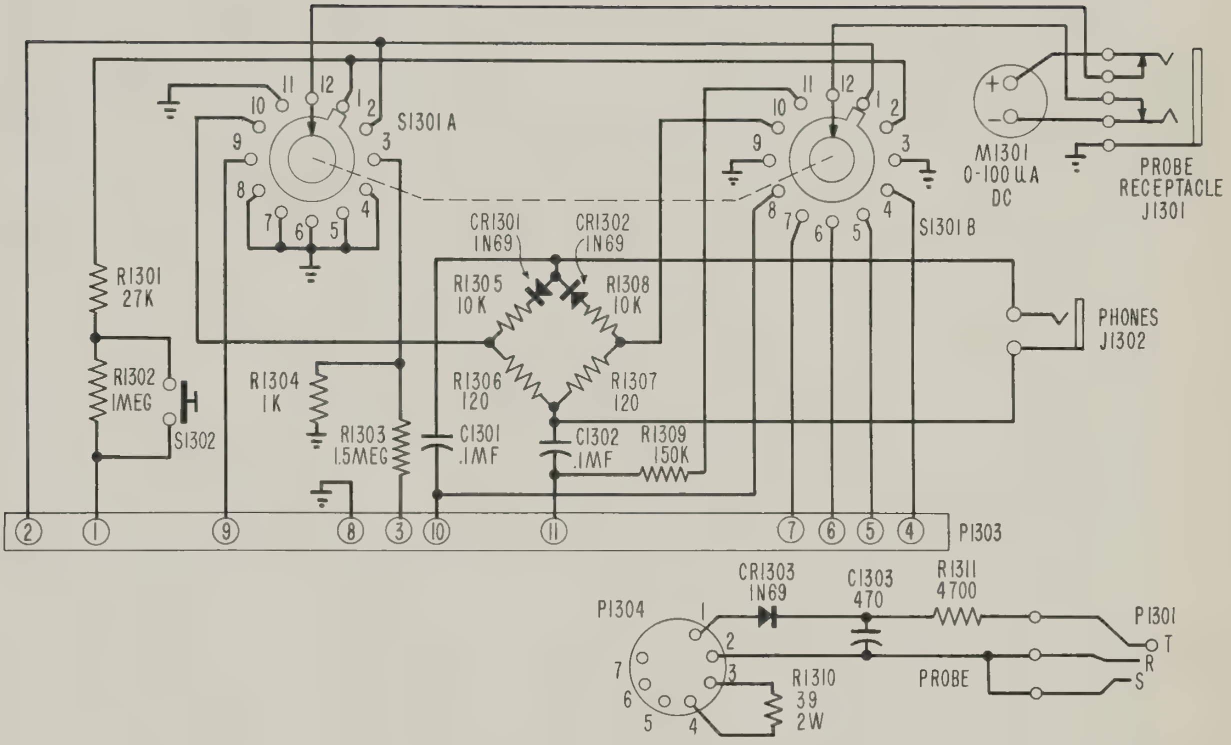
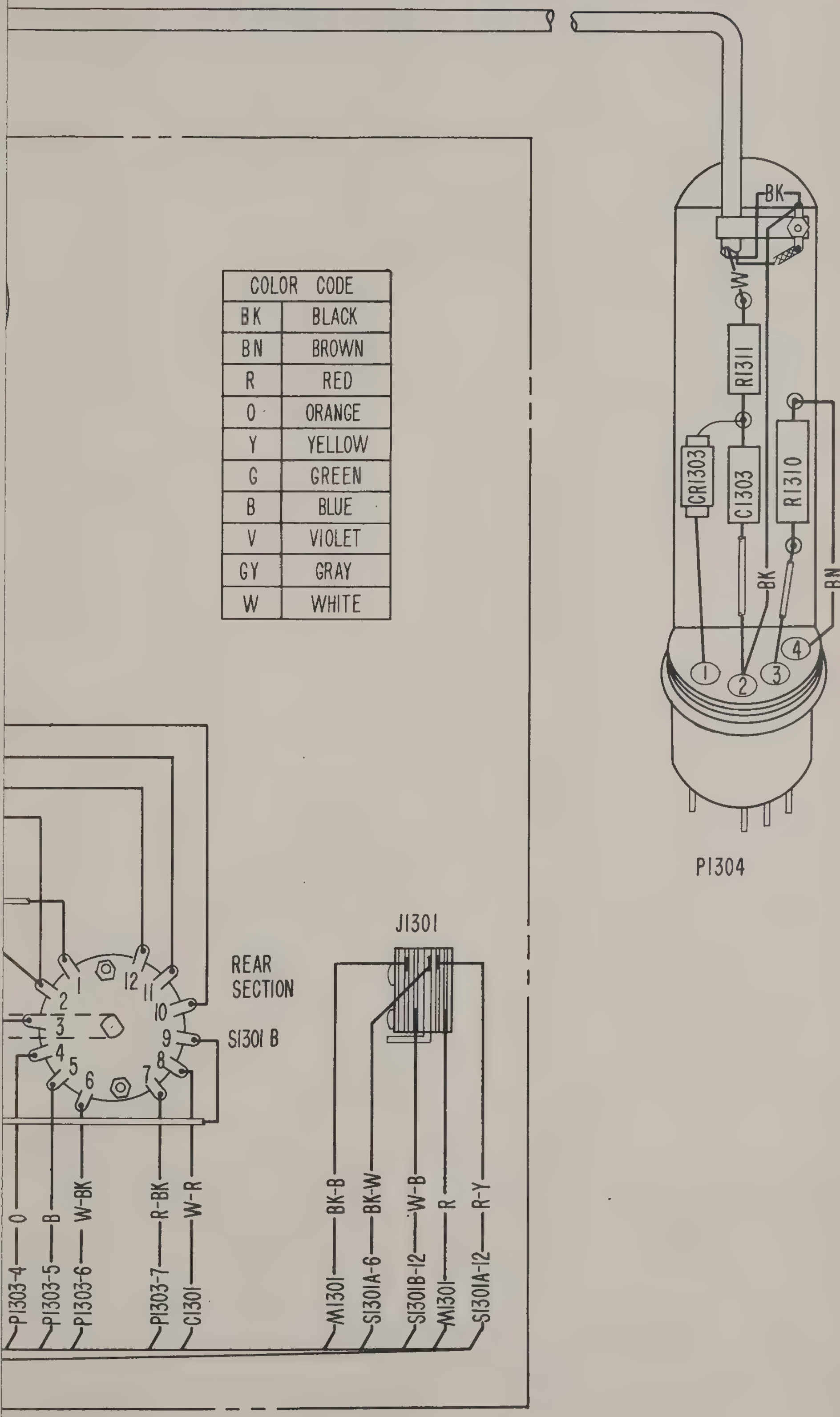
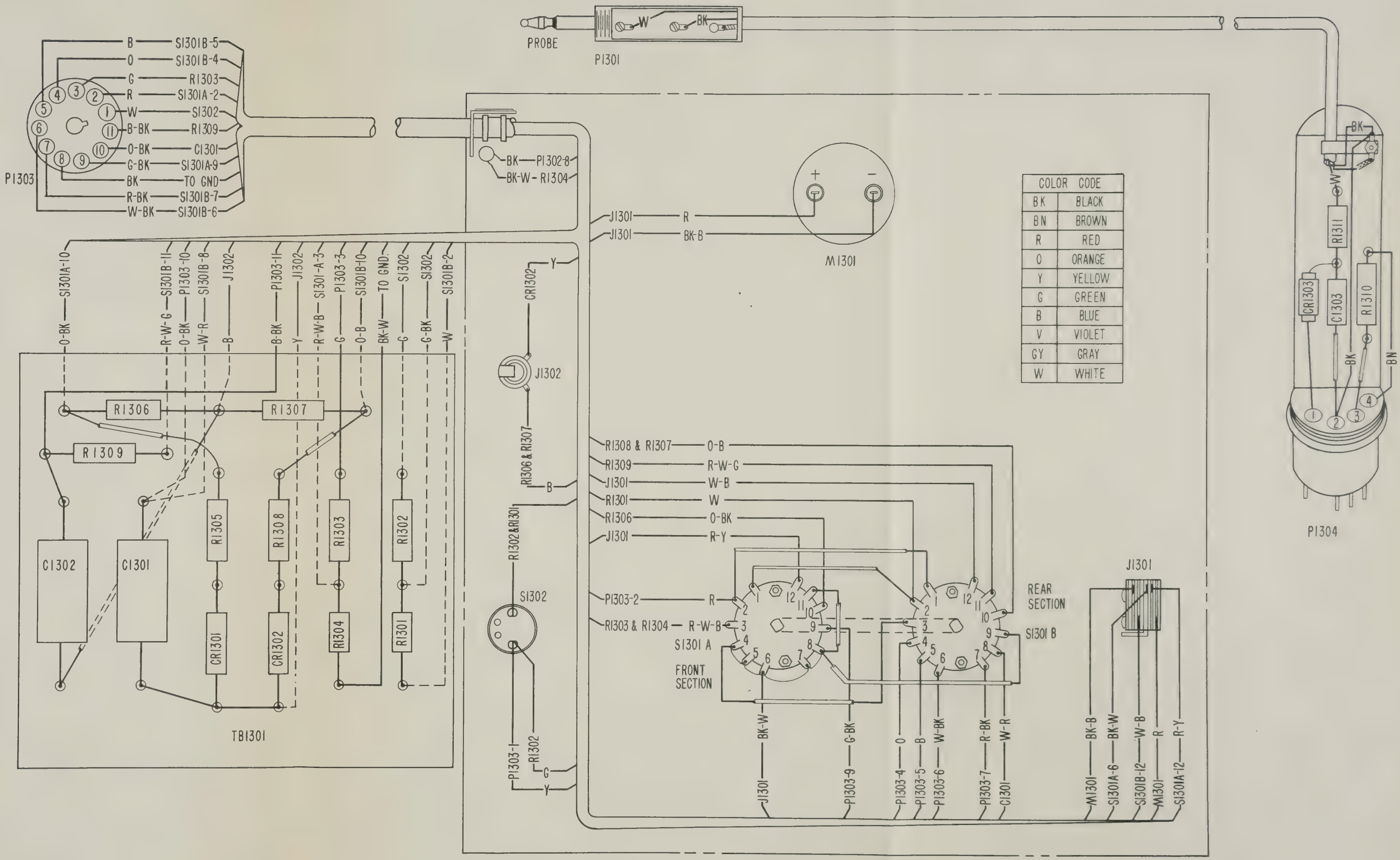


Figure 7-50. Radio Test Set TS-777/URD-4, Schematic Diagram



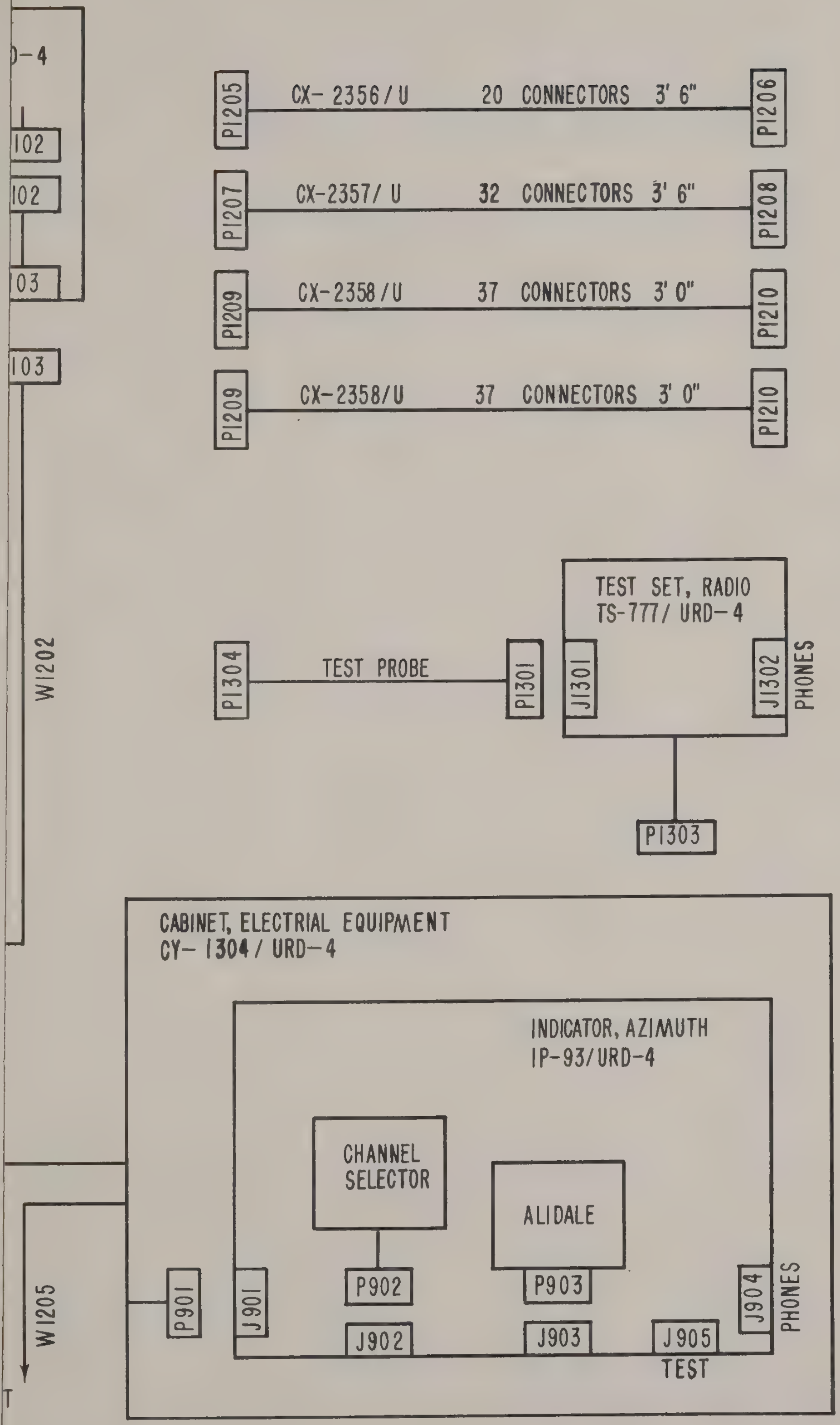
COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Radio Test Set TS-777/URD-4, Wiring Diagram



COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-51. Radio Test Set TS-777/URD-4, Wiring Diagram



igure 7-52. Connector Diagram

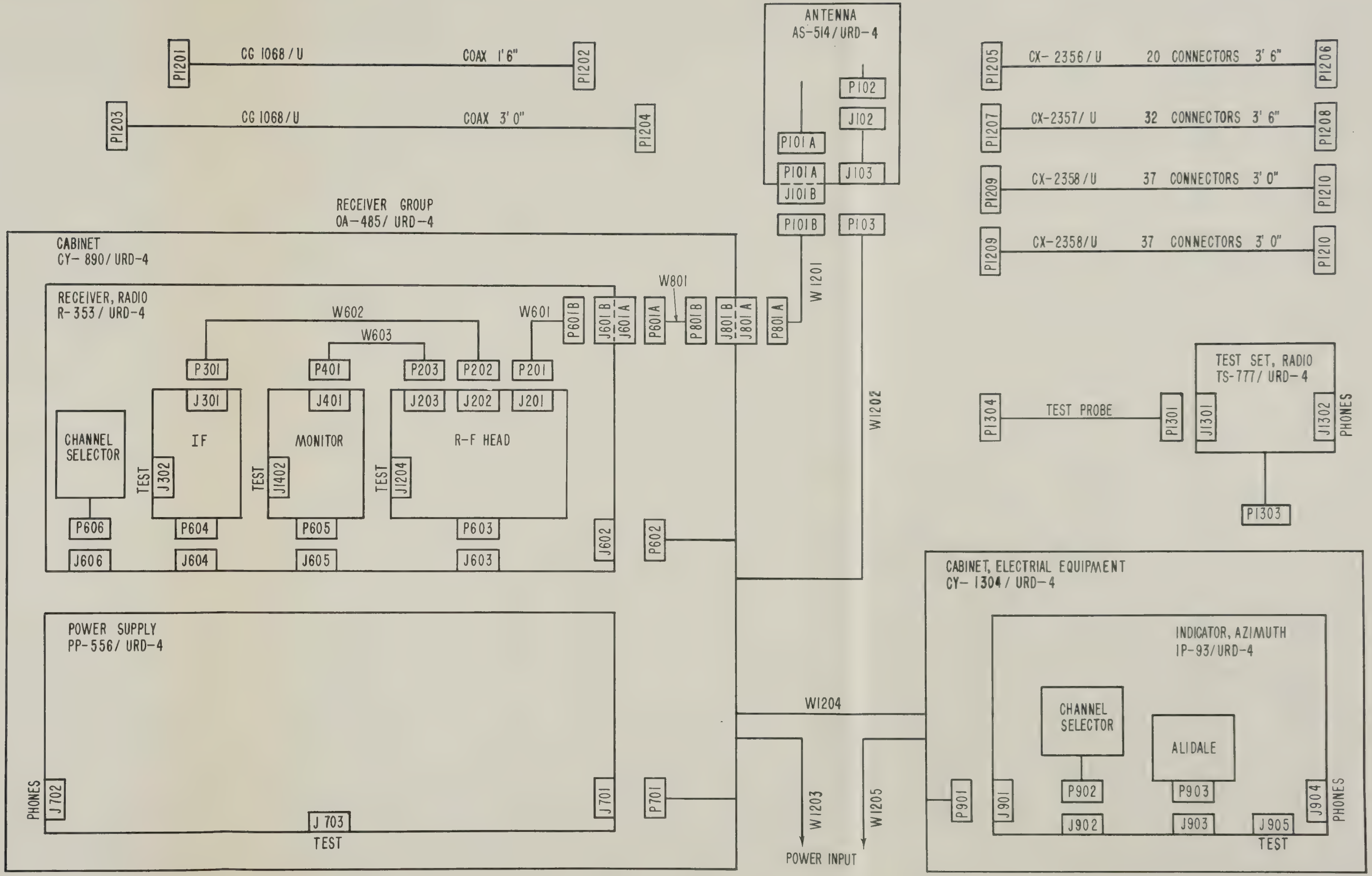
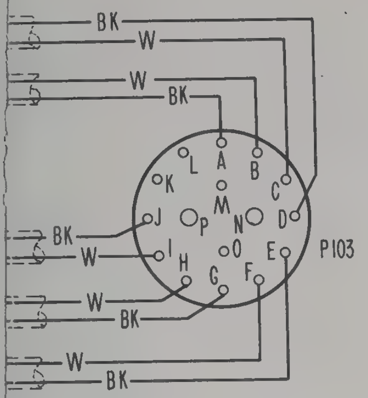


Figure 7-52. Connector Diagram



SYMBOL	NAVY STANDARD	NUMBER COND	ACTIVE COND	NAVY TYPE NO.	FROM	TO	CONNECTOR ANTENNA	CONNECTOR RECEIVER
W-1201		COAX	1	RG-18/U	J101B	J801A	UG-154/U	UG-154/U
W-1202		12	10	TTRSA-6	J103	TB801	N287024-17	
W-1203		2	2	DSGA-4	TB802	PRI POWER		
W-1204		40	38	TTHFWA-20	TB801	TB 1101		
W-1205		2	2	DSGA-4	TB1102	PRI POWER		

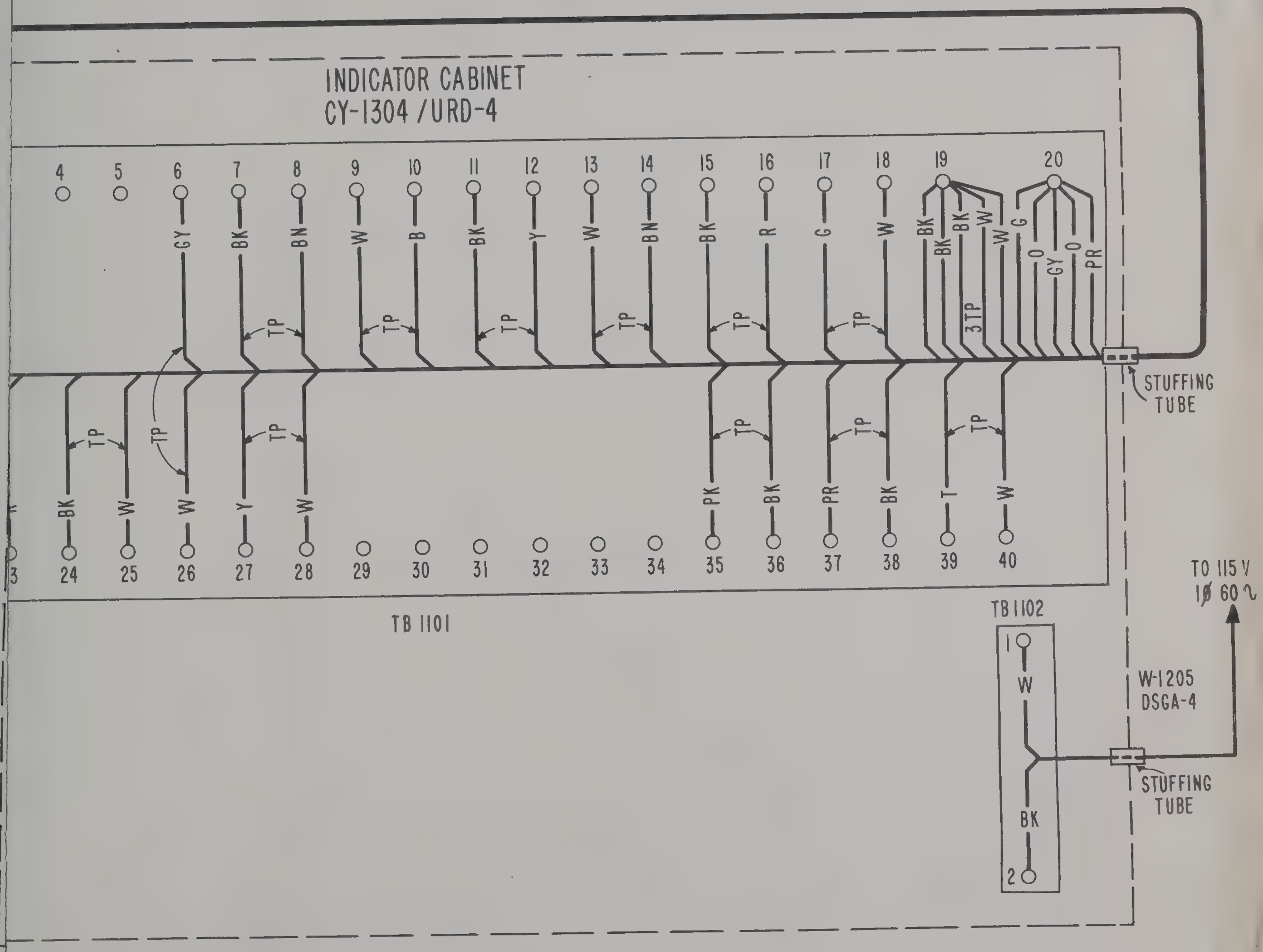
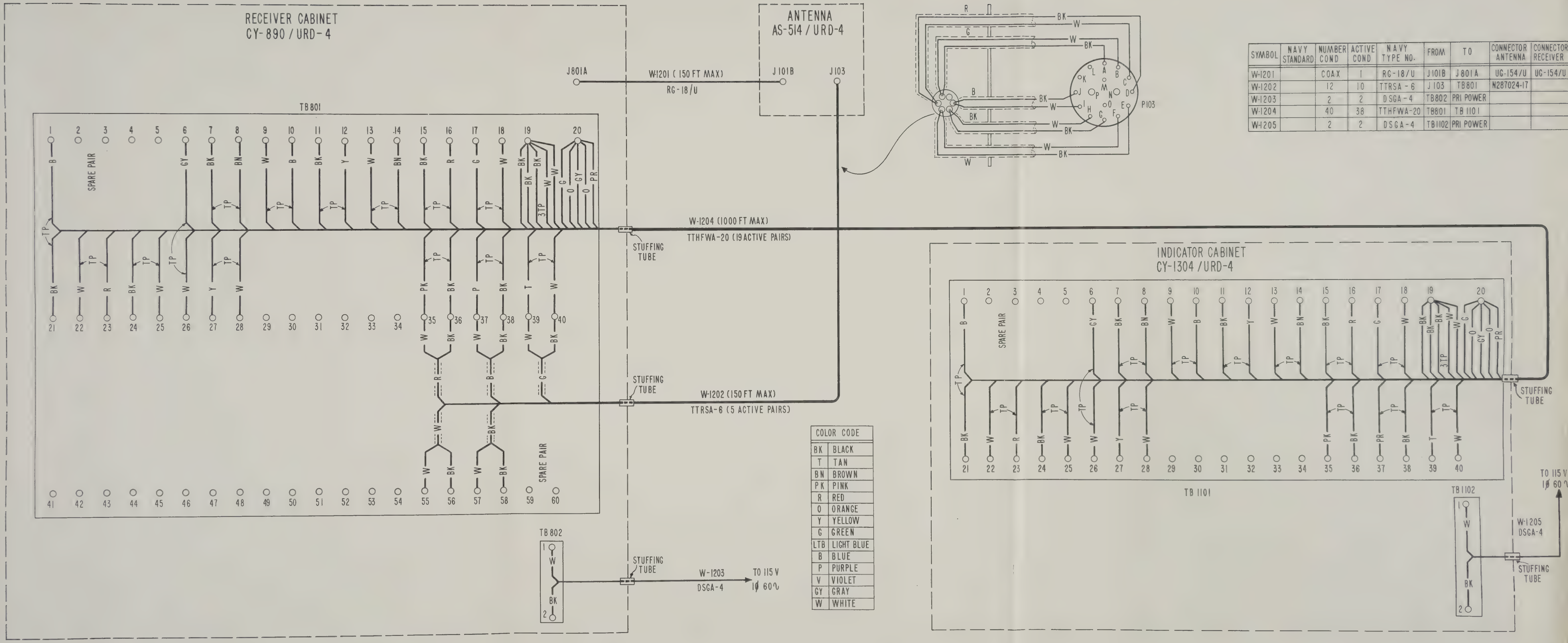


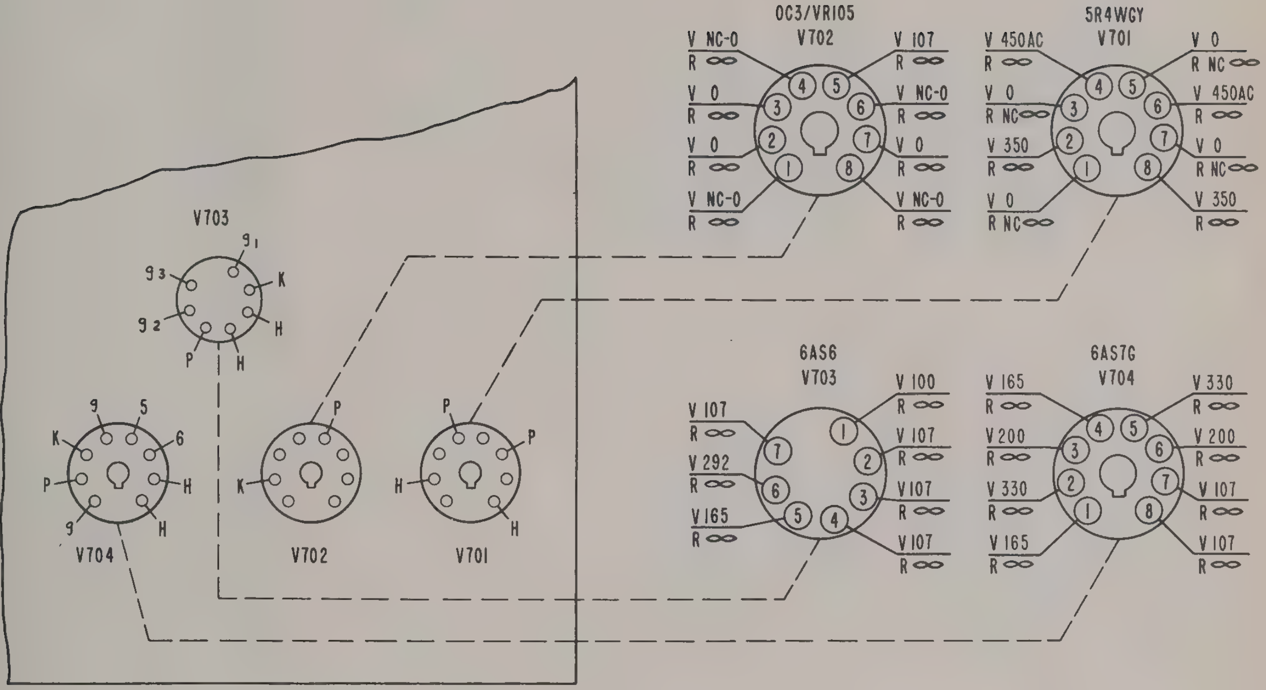
Figure 7-53. Interconnecting and Cabling Diagram



SYMBOL	NAVY STANDARD	NUMBER COND	ACTIVE COND	NAVY TYPE NO.	FROM	TO	CONNECTOR ANTENNA	CONNECTOR RECEIVER
W-1201		COAX	1	RG-18/U	J101B	J801A	UG-154/U	UG-154/U
W-1202		12	10	TTRSA-6	J103	TB801	N287024-17	
W-1203		2	2	DSGA-4	TB802	PRI POWER		
W-1204		40	38	TTHFWA-20	TB801	TB 1101		
W-1205		2	2	DSGA-4	TB1102	PRI POWER		

COLOR CODE	
BK	BLACK
T	TAN
BN	BROWN
PK	PINK
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
LTB	LIGHT BLUE
B	BLUE
P	PURPLE
V	VIOLET
GY	GRAY
W	WHITE

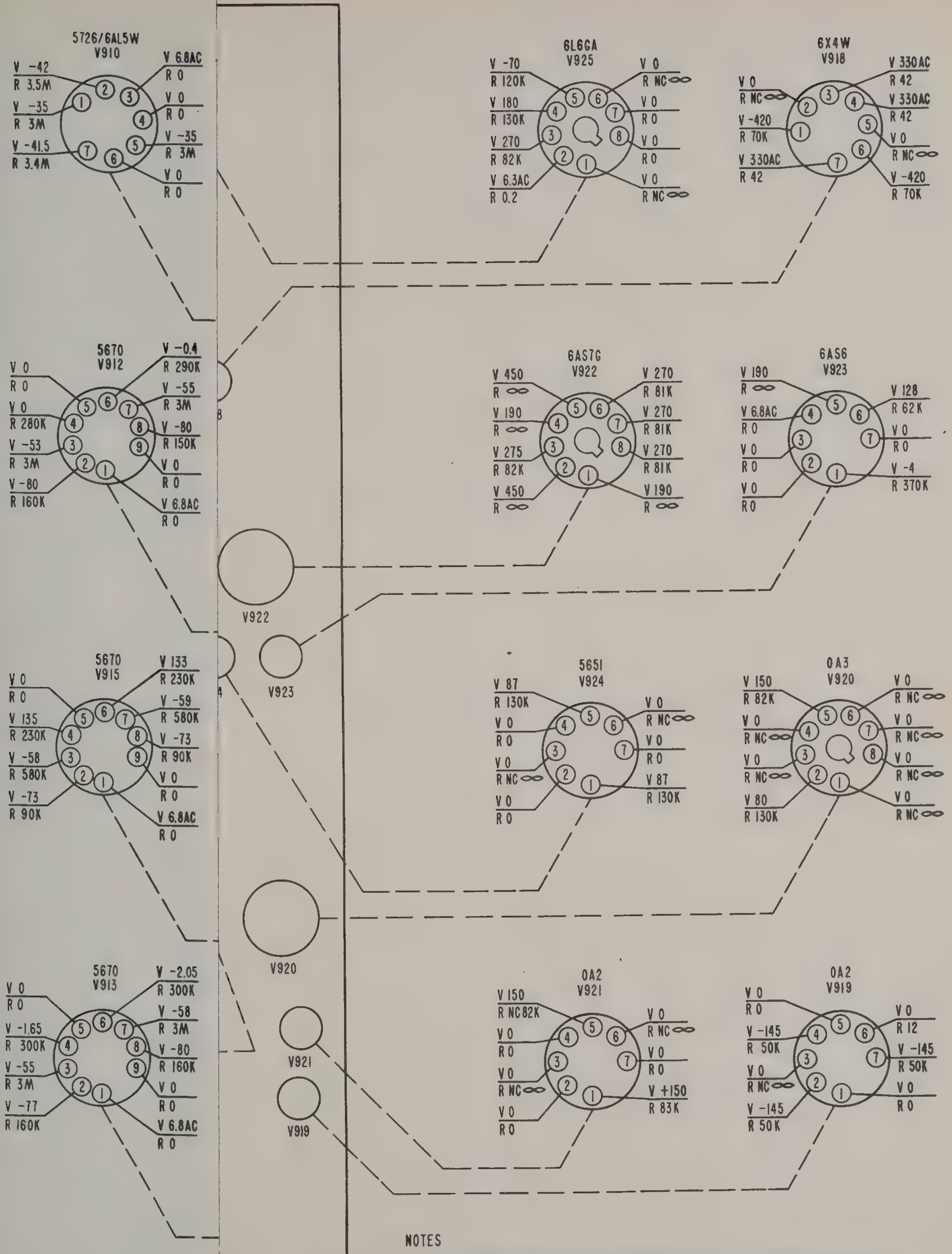
Figure 7-53. Interconnecting and Cabling Diagram



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT.MODEL 630)
ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.
V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.
R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.
NC-INDICATES NO CONNECTION TO TERMINAL.
RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.
SQUELCH SWITCH TO ON POSITION.
ANTENNA ROTATING.

Figure 7-54. Power Supply PP-556/URD-4, Voltage and Resistance Measurements



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT, MODEL 630)

ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.

V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.

R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.

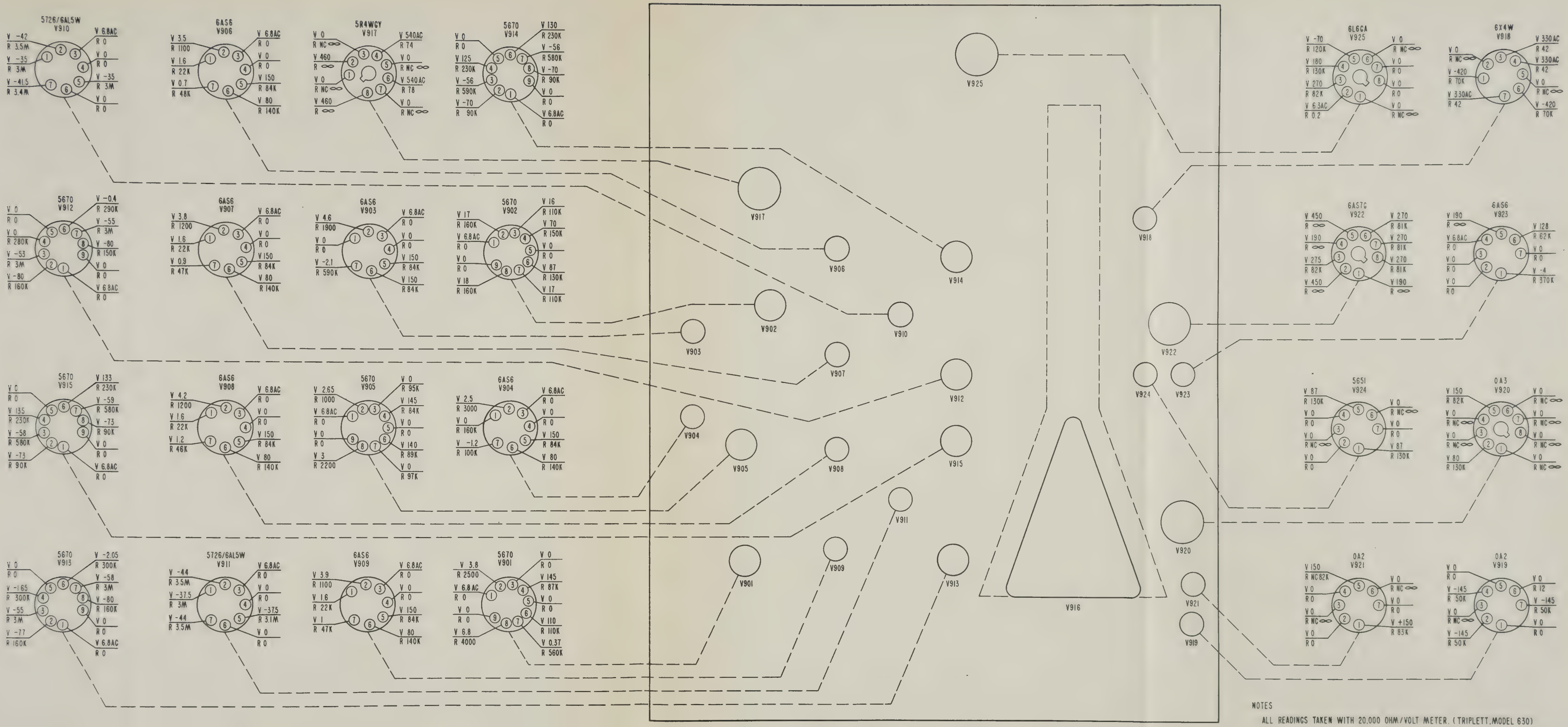
NC-INDICATES NO CONNECTION TO TERMINAL.

RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.

SQUELCH SWITCH TO ON POSITION.

ANTENNA ROTATING.

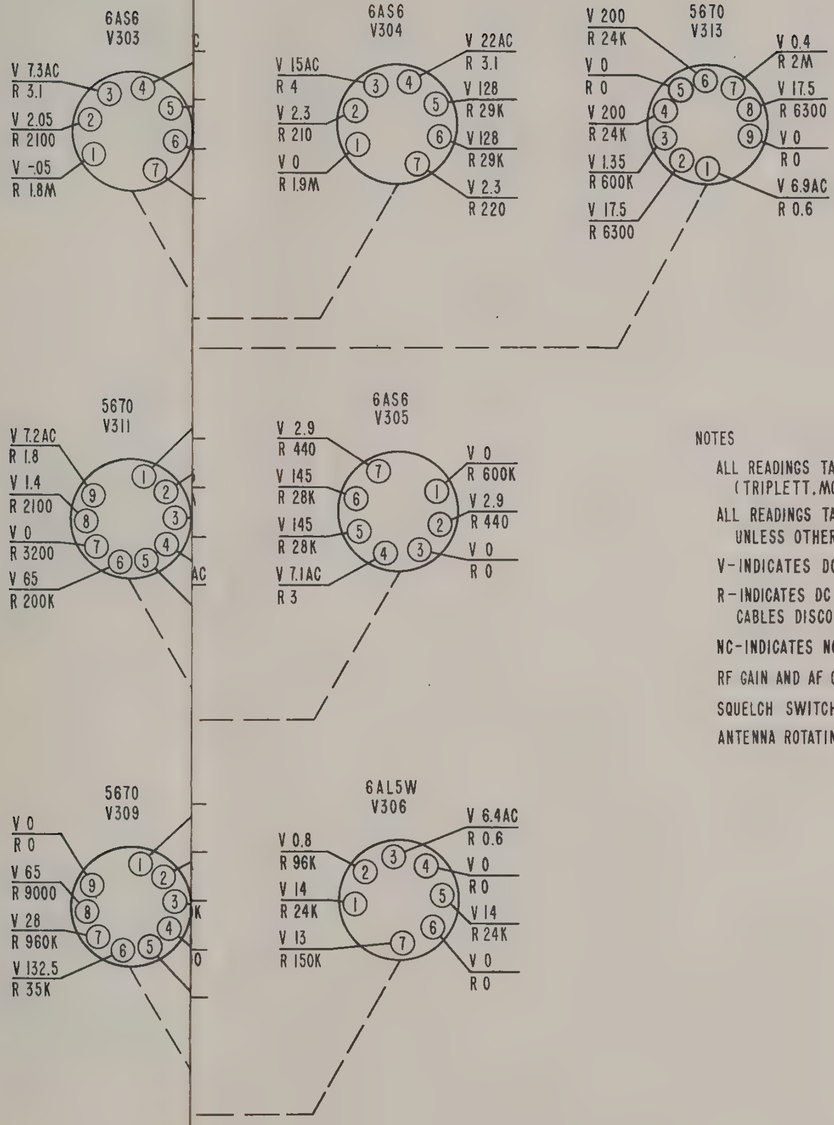
Azimuth Indicator IP-93/URD-4, Voltage and Resistance Measurements



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT MODEL 630)
ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED
V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.
R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.
NC-INDICATES NO CONNECTION TO TERMINAL.
RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.
SQUELCH SWITCH TO ON POSITION.
ANTENNA ROTATING.

Figure 7-55. Azimuth Indicator IP-93/URD-4, Voltage and Resistance Measurements



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT. MODEL 630)

ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.

V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.

R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.

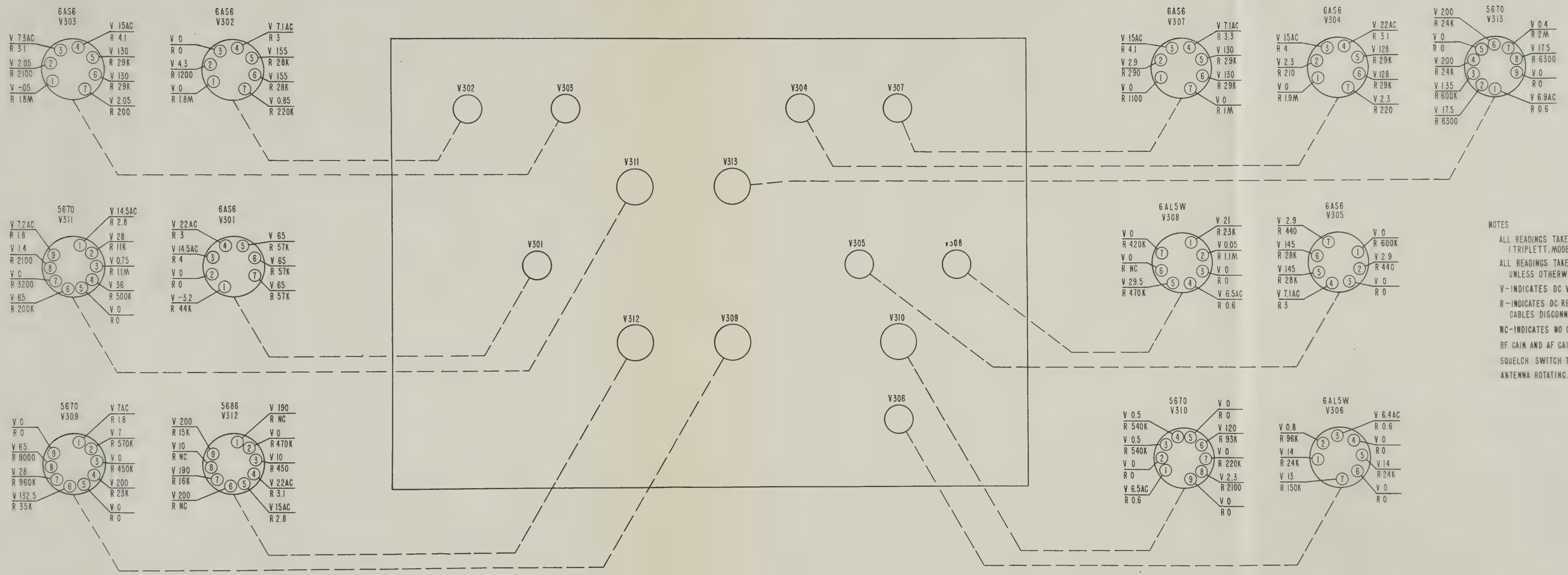
NC-INDICATES NO CONNECTION TO TERMINAL.

RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.

SQUELCH SWITCH TO ON POSITION.

ANTENNA ROTATING.

6. I-F Video - Audio Chassis, Voltage and Resistance Measurements



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT, MODEL 630)

ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.

V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.

R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.

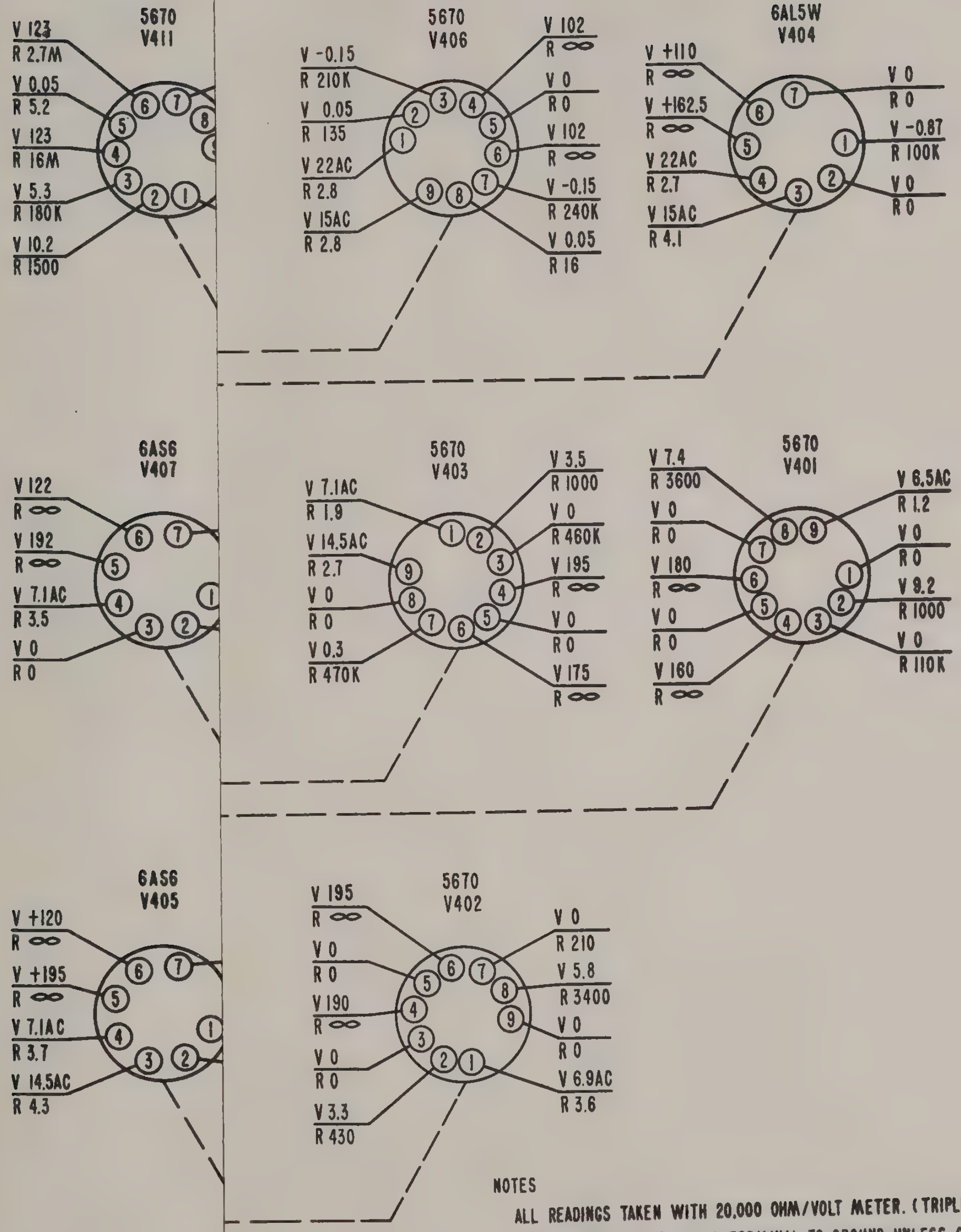
NC-INDICATES NO CONNECTION TO TERMINAL.

RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.

SQUELCH SWITCH TO ON POSITION.

ANTENNA ROTATING.

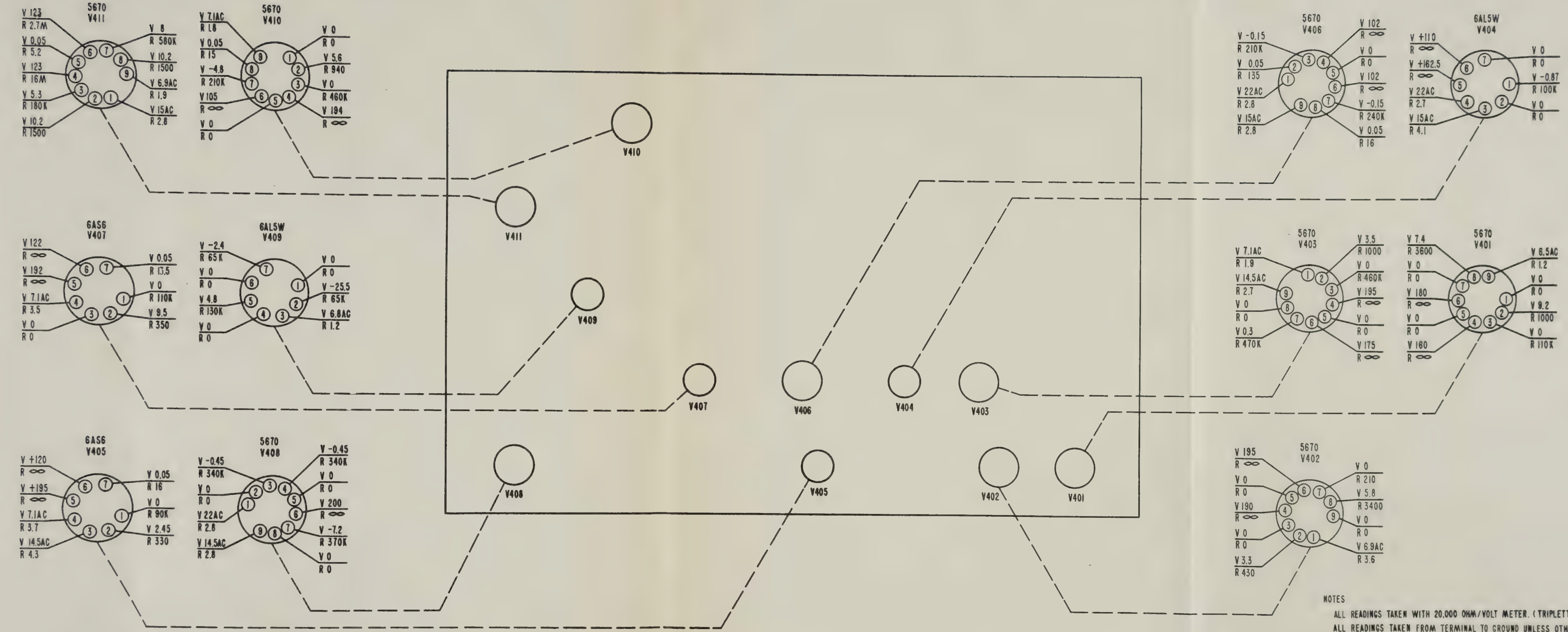
Figure 7-56. I-F Video - Audio Chassis, Voltage and Resistance Measurements



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT, MODEL 630)
ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.
V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.
R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.
NC-INDICATES NO CONNECTION TO TERMINAL.
RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.
SQUELCH SWITCH TO ON POSITION.
ANTENNA ROTATING.

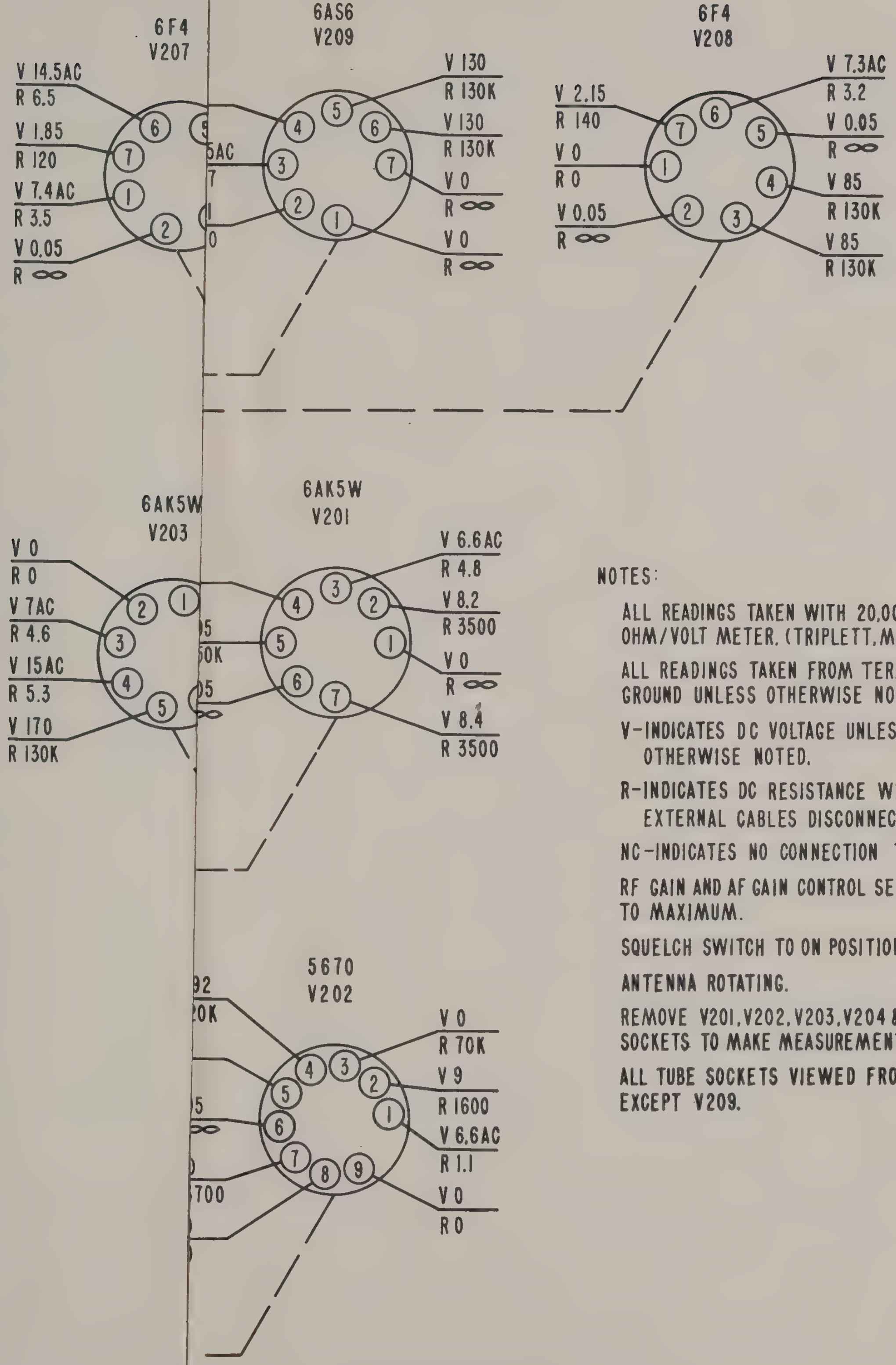
Monitor, Voltage and Resistance Measurements



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT, MODEL 630)
ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.
V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.
R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.
NC-INDICATES NO CONNECTION TO TERMINAL.
RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.
SQUELCH SWITCH TO ON POSITION.
ANTENNA ROTATING.

Figure 7-57. Monitor, Voltage and Resistance Measurements



NOTES:

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT, MODEL 630)

ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.

V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.

R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.

NC-INDICATES NO CONNECTION TO TERMINAL.

RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.

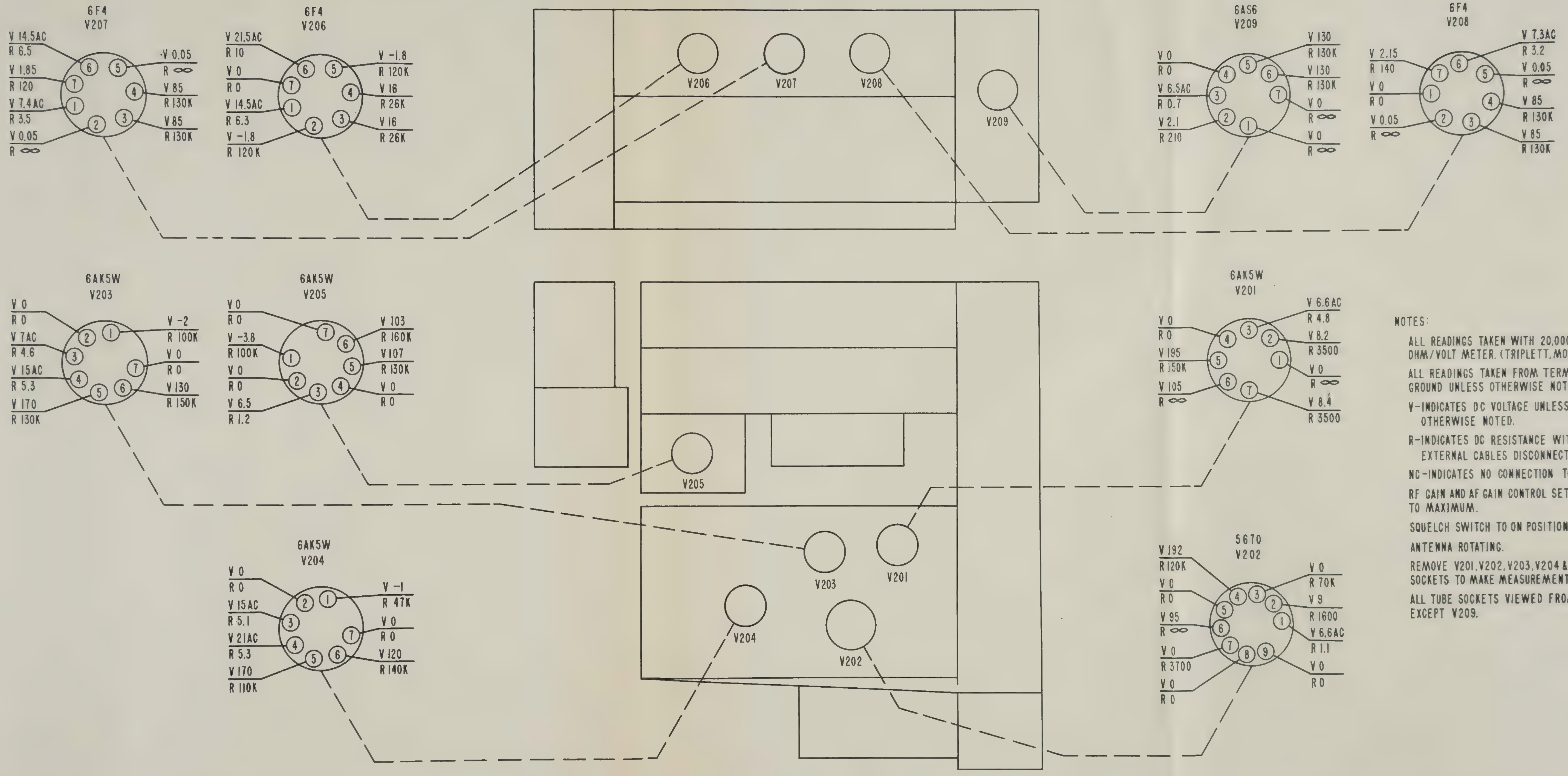
SQUELCH SWITCH TO ON POSITION.

ANTENNA ROTATING.

REMOVE V201, V202, V203, V204 & V205 FROM SOCKETS TO MAKE MEASUREMENTS.

ALL TUBE SOCKETS VIEWED FROM TOP EXCEPT V209.

R-F Head, Voltage and Resistance Measurements



NOTES:

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER. (TRIPLETT, MODEL 630)

ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.

V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.

R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.

NC-INDICATES NO CONNECTION TO TERMINAL.

RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.

SQUELCH SWITCH TO ON POSITION.

ANTENNA ROTATING.

REMOVE V201, V202, V203, V204 & V205 FROM SOCKETS TO MAKE MEASUREMENTS.

ALL TUBE SOCKETS VIEWED FROM TOP EXCEPT V209.

Figure 7-58. R-F Head, Voltage and Resistance Measurements

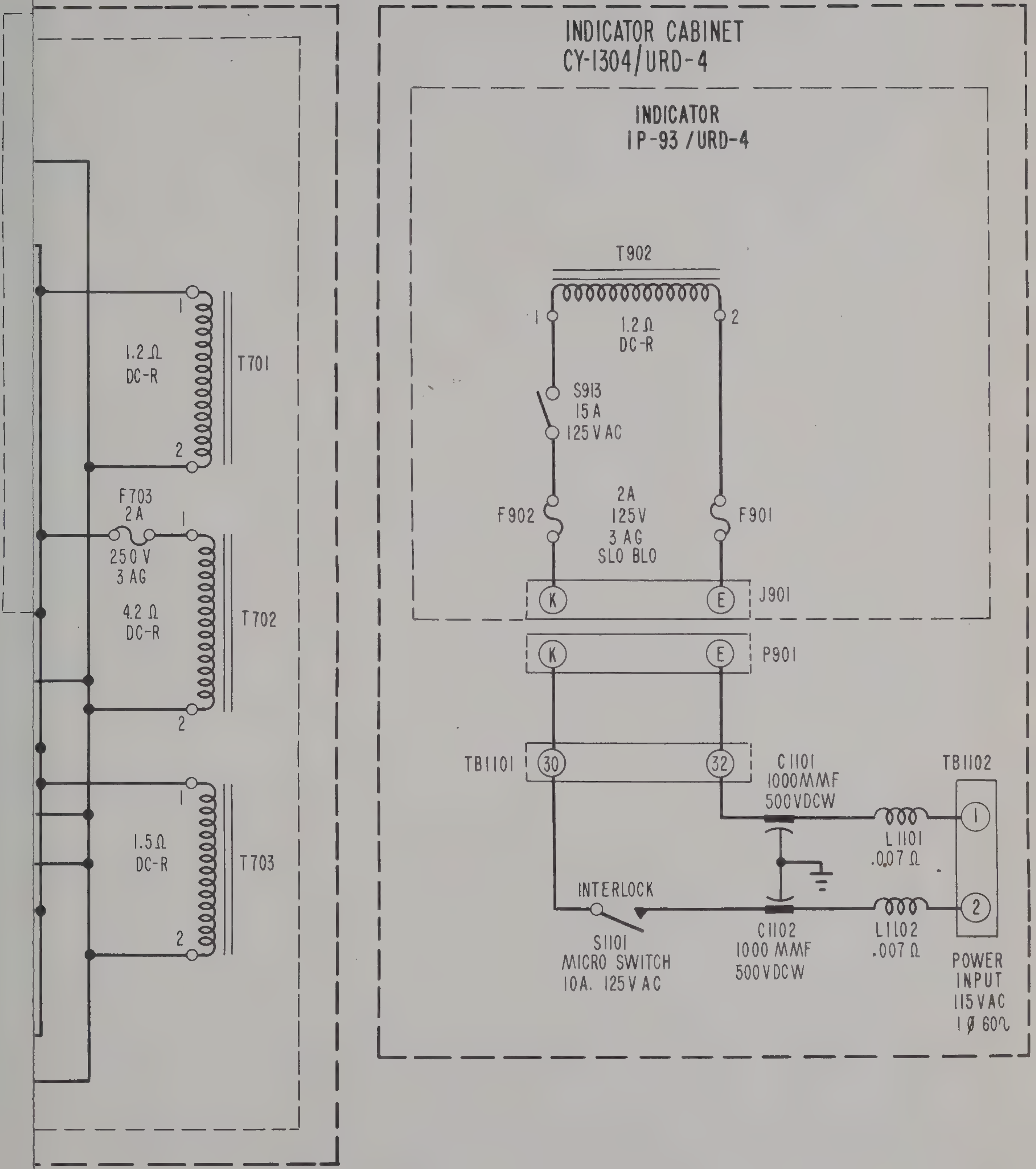


Figure 7-59. Primary Power Distribution

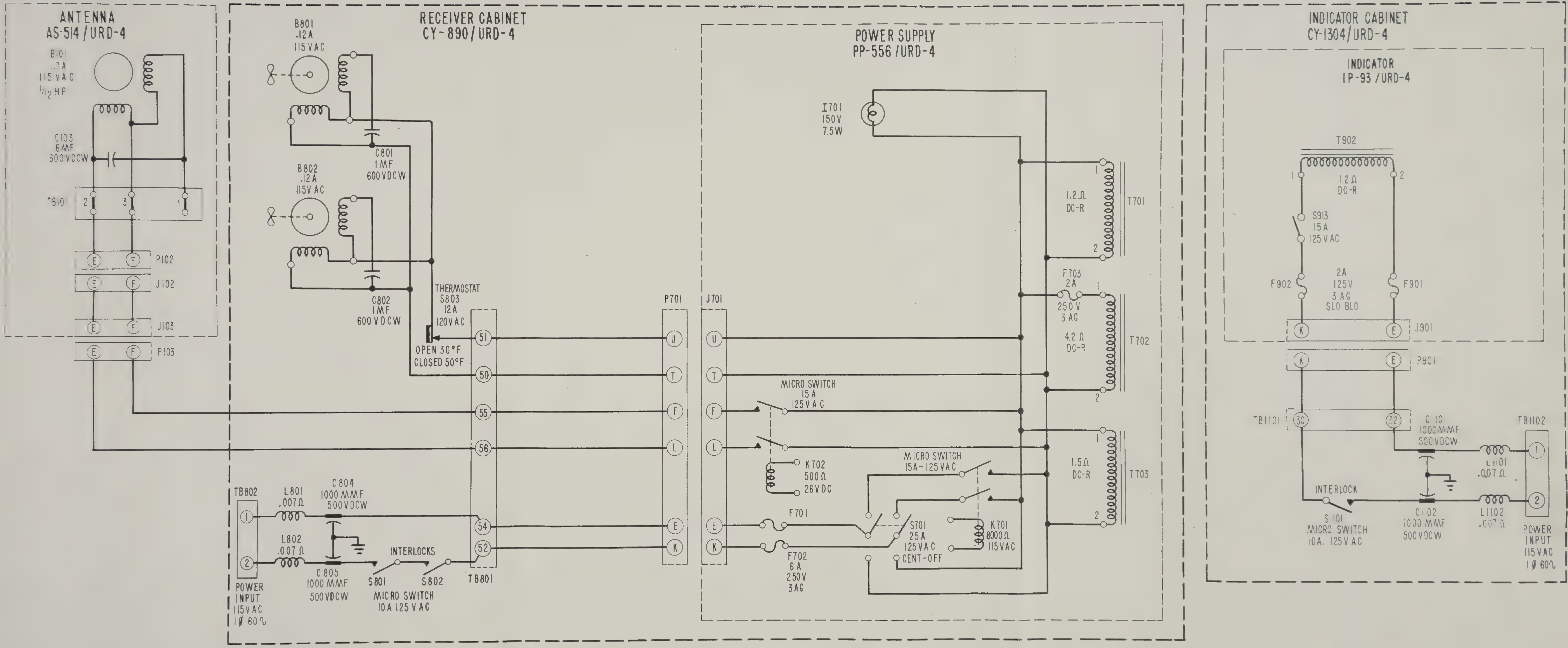


Figure 7-59. Primary Power Distribution

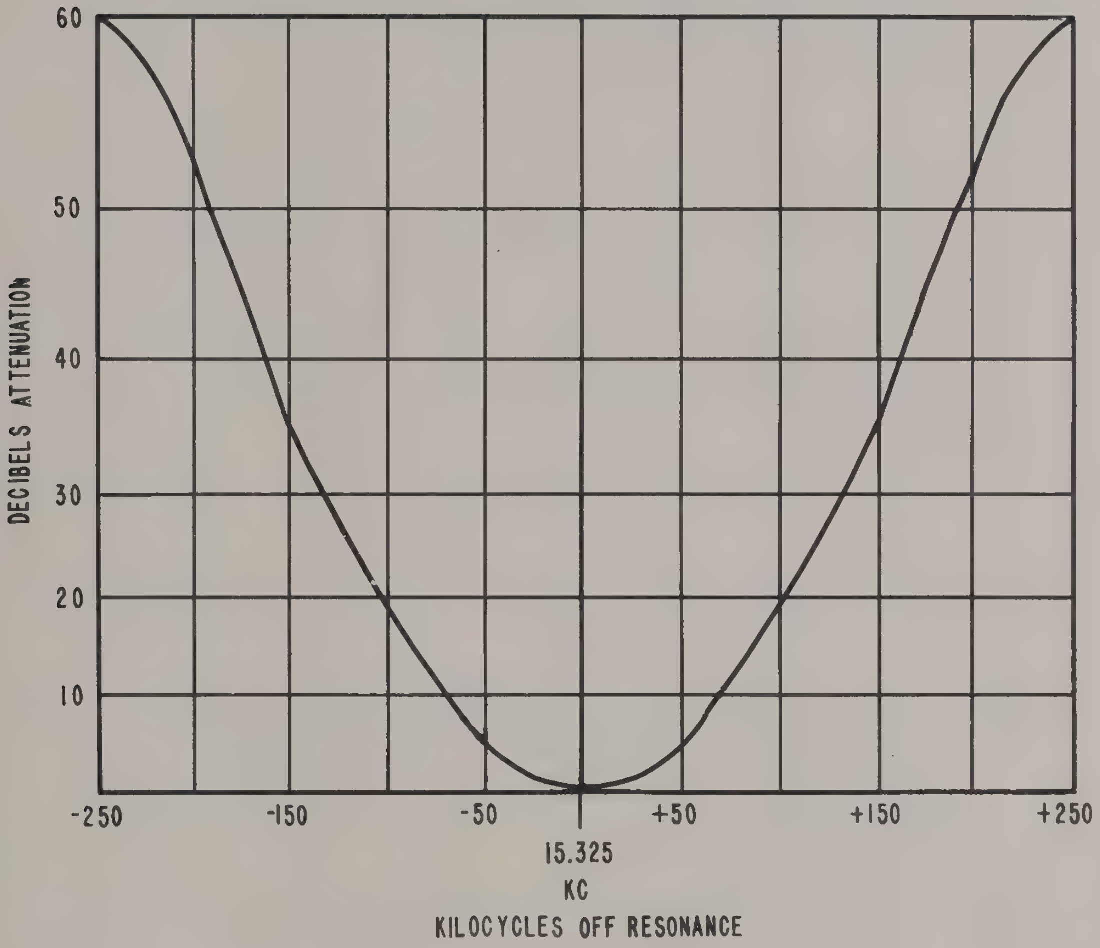


Figure 7-60. Receiver Selectivity

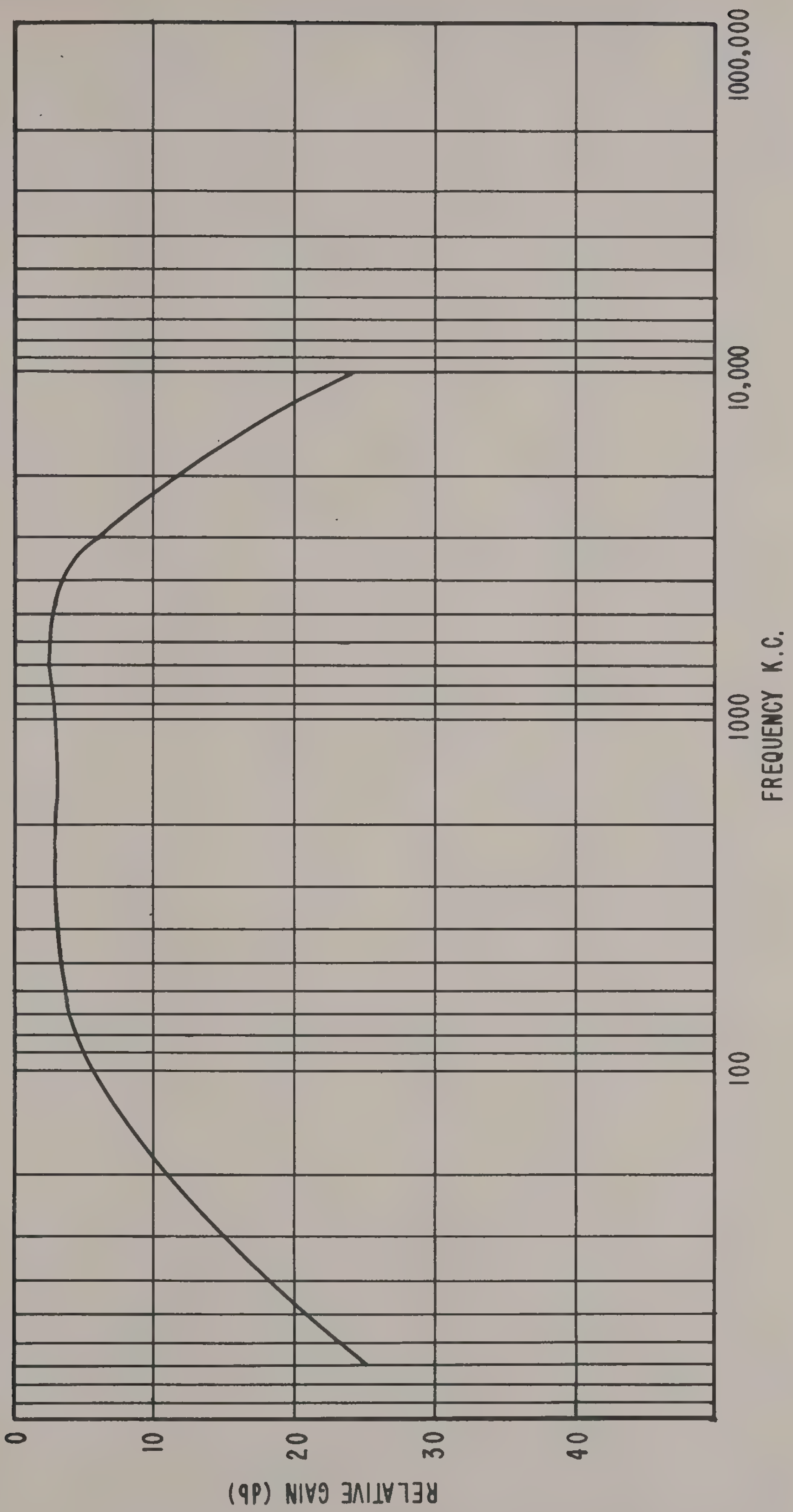


Figure 7-61. Audio Frequency Response

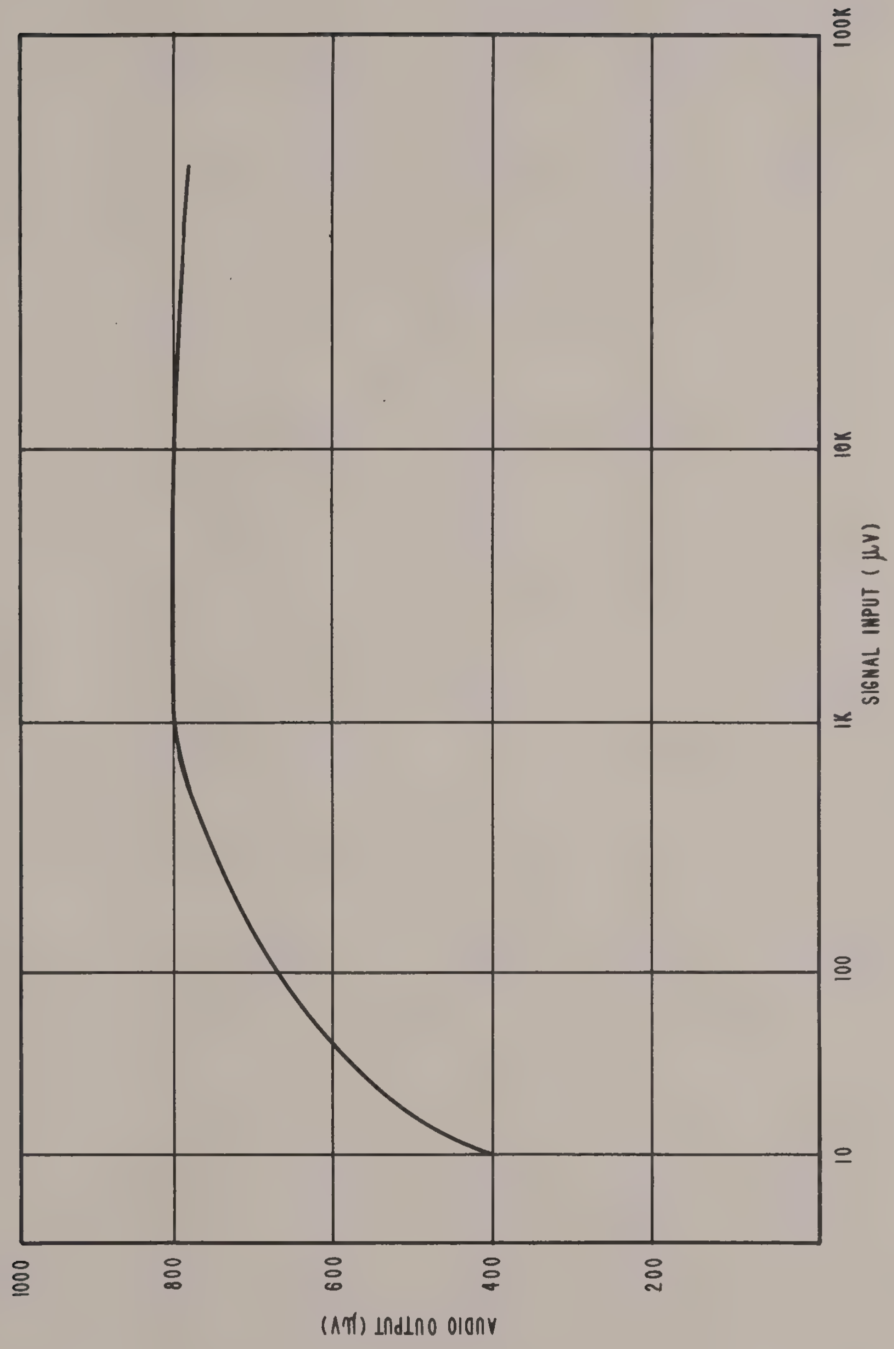


Figure 7-62. Automatic Gain Control

SECTION 8

PARTS LIST

TABLE 8-1. WEIGHTS AND DIMENSIONS OF SPARE PARTS BOXES

(To be included in printed book)

TABLE 8-2. SHIPPING WEIGHTS AND DIMENSIONS OF SPARE PARTS BOXES

(To be included in printed book)

TABLE 8-3. LIST OF MAJOR UNITS

SYMBOL GROUP	QUANTITY	NAME OF MAJOR UNIT	NAVY TYPE
101 through 199	1	Antenna	AS-514/URD-4
201 through 499	1	Radio Receiver	R-353/URD-4
601 through 699	1	Receiver Frame	
701 through 799	1	Power Supply	PP-556/URD-4
801 through 899	1	Cabinet	CY-890/URD-4
901 through 999	1	Azimuth Indicator	IP-93/URD-4
1101 through 1199	1	Electrical Equipment Cabinet	CY-1304/URD-4
1301 through 1399	1	Radio Test Set	TS-777/URD-4

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
100 thru 199		ANTENNA AS-514/URD-4: Bendix Part No. OR650001-1	
A101	3	BASE, ANTENNA: Bendix Part No. N691401-1	Antenna base for mounting to mast
A102	2	MAST SECTION: Bendix Part No. OR281785-1	Antenna housing and support
A103		MAST SECTION: Bendix Part No. N281457-1	Houses transmission lines, supports A104
A104	1	ANTENNA SUBASSEMBLY: Bendix Part No. OR206549-2	Housing and cross-arm section c/o A108,E114 thru E117
A105	3	COVER, ANTENNA: Bendix Part No. N220793-1	Outside cover for antenna
A106	3	BASE, MOTOR: Bendix Part No. L228374-1	Mounting for antenna drive
A107	3	SUPPORT, RADOME: Bendix Part No. N298112-1	Support for A105
A108		ANTENNA SUBASSEMBLY: Bendix Part No. OR206549-3	Double dipole support, less dipoles
B101		MOTOR, ALTERNATING CURRENT: Bendix Part No. N221096-1	Antenna drive
C101		NOT REPLACEABLE	Part of E114
C102		NOT REPLACEABLE	Part of E114
C103		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP70B1DF605K	For B101
C104		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP63B1EE104K	Calibration tuning L105
E101		BRUSH, ELECTRICAL CONTACT: Bendix Part No. C293378-2	Contact, ground
E102		SAME AS E101	Contact, sense
E103		NOT REPLACEABLE	Part of G101
E104		CONTACT, ELECTRICAL: Bendix Part No. C294001-1	Coil contact for L101,L102,L103, L104
E105		COIL, REPRODUCER HEAD: Bendix Part No. C215462-1	Coil for L105

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E106	3	CAP, ELECTRICAL: Bendix Part No. A237162-1	Retainer for magnet E109
E107	3	NUT, PLAIN, KNURLED: Bendix Part No. A249804-1	For L105
E108		CORE, ADJUSTABLE TUNING: Bendix Part No. A215364-1	Core for L105
E109		MAGNET, PERMANENT: Bendix Part No.A235805-1	Provides magnetic field for L105
E110	3	HOLDER, BRUSH: Bendix Part No. C280338-1	For E101
E111	3	HOLDER, BRUSH: Bendix Part No. C280338-2	For E102
E112		CAP, ELECTRICAL: Bendix Part No.A237262-1	Cap for E110, retains E101
E113		SAME AS E112	Cap for E111, retains E102
E114		ANTENNA SUBASSEMBLY: Bendix Part No. N281612-1	Antenna drive shaft
E115		ANTENNA SUBASSEMBLY: Bendix Part No L207740-1	Half dipole
E116		SAME AS E115	Half dipole
E117		SAME AS E115	Half dipole
E118		SAME AS E115	Half dipole
E119		NOT USED	
E120		RING ASSEMBLY, COLLECTOR: Bendix Part No. C207707-1	Pick-up ring for antenna sense voltage
E121	3	INSULATOR, TRANSPOSITION: Bendix Part No. A293370	Antenna lead
E122		SAME AS E121	Antenna lead
E123	3	INSULATOR, BUSHING: Bendix Part No. A243957	For antenna lead
E124		SAME AS E123	For antenna lead
E125	2	INSULATOR, WASHER: Bendix Part No. A243951	For E116
E126		SAME AS E125	For E117
E127		SAME AS E125	For E118
E128		SAME AS E125	For E115
E129		CONTACT ASSEMBLY, ELECTRICAL: Bendix Part No. L281781-1	For sense pattern voltage
E130		CONNECTOR, ADAPTER: JAN Type No.UG-216/U	For P101B
E131		CONNECTOR, ADAPTER: JAN Type No.UG-27B/U	

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
G101		GENERATOR, ALTERNATING CURRENT: Bendix Part No. L281504-1	Indicator calibration
H101		PLATE, MOUNTING, CAPACITOR: JAN Type No. CP07SB6	For C103 (2 brackets)
H102		CLAMP, ELECTRICAL: JAN Type No. AN3057-12	For P102
H103	2	PLATE, MOUNTING, CAPACITOR: Bendix Part No. C298013-1	For C103
H104	2	PLUG, MACHINE THREAD: Bendix Part No. C234269-2	Plug for draining
J101		CONNECTOR, ADAPTER: JAN Type No. UG-271/U	Antenna signal output for P101A, P101B
J102		CONNECTOR, RECEPTACLE: JAN Type No. AN 3102A-20-27S	Power and reference voltage for P102
J103		CONNECTOR, RECEPTACLE: Bendix Part No. N287026-18	Antenna power for P103
K101		ELECTROMAGNETIC ACTUATOR: Bendix Part No. L280040-1	Antenna sense actuator
L101		COIL, RADIO FREQUENCY: Bendix Part No. C215470-1	Antenna coil
L102		SAME AS L101	Antenna coil
L103		SAME AS L101	Antenna coil
L104		SAME AS L101	Antenna coil
L105	1	COIL, MARKER GENERATOR: Bendix Part No. L215355-1	Generates marker reference voltage for CRT calibration c/o E105,E106,E107, E108,E109
O101	2	PACKING, PREFORMED: Bendix Part No. C235089-9	For sealing A105
O102		SAME AS O101	For sealing A107
O103	2	PACKING PREFORMED: Bendix Part No. L232807-65	Seal for A103
O104	2	PACKING PREFORMED: Bendix Part No. L232807-5	For H104

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
O105	2	GASKET: Bendix Part No. C235324-8	Seal for J101
O106	2	GASKET: Bendix Part No. C235324-2	Seal for J103
O107	2	PACKING, PREFORMED: Bendix Part No. L232807-69	Seal for A101
O108	2	PACKING, PREFORMED: Bendix Part No. L232807-60	Seal for A107
O109		BEARING, BALL, ANNULAR: Bendix Part No. C240211-5	For antenna drive shaft
O110		BEARING, BALL, ANNULAR: Bendix Part No. C240211-6	For antenna drive shaft
O111		COUPLING, SHAFT, FLEXIBLE: Bendix Part No. C280333-1	Couples B101 to antenna drive
O112		COUPLING, SHAFT, FLEXIBLE: Bendix Part No. C239555-6	Couples B101 to G101
O113	2	RING, RETAINER: Bendix Part No. A238880	Retainer for E116
O114		SAME AS O113	Retainer for E117
O115		SAME AS O113	Retainer for E118
O116		SAME AS O113	Retainer for E115
O117		NOT USED	
O118	2	NUT, PLAIN, KNURLED: Bendix Part No. C238964-1	Collar for mast
O119		COVER, ELECTRICAL CONNECTOR: Bendix Part C232933-20	For J101
O120		COVER, ELECTRICAL CONNECTOR: Bendix Part C232933-24	For J103
O121		NOT USED	
O122	2	COVER, ELECTRICAL RELAY: Bendix Part No. C298843-1	For rotary relay K101
O123		SPRING: Bendix Part No. C681090-1	Return spring for K101
P101A		CONNECTOR, PLUG: JAN Type No. UG-536/U	Antenna signal to J101
P101B		CONNECTOR, PLUG: JAN Type No. UG-154/U	Antenna signal to J101
P102		CONNECTOR, PLUG: JAN Type No. AN3106A-20-27P	Antenna power to J102

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
P103		CONNECTOR, PLUG: Bendix Part No. N287024-17	Power input to J103
R101		RESISTOR, FIXED, FILM: Bendix Part No. L220530-1	Antenna sense network
R102		SAME AS R101	Antenna sense network
R103		SAME AS R101	Antenna sense network
R104		SAME AS R101	Antenna sense network
T101		COUPLER, TRANSMISSION LINE: Bendix Part No. C206363-1	Couples receiver to antenna
TB101		TERMINAL BOARD: Bendix Part No. C60854-14	Interconnection for L105,G101, B101, etc.
W101	3	LINE SECTION, RADIO FREQUENCY TRANSMISSION: Bendix Part No. A237535-1	Open air transmission line
W102		SAME AS W101	Open air transmission line
W103		SAME AS W101	Open air transmission line
W104		SAME AS W101	Open air transmission line
W105		NOT REPLACEABLE	Part of E114
W106		NOT REPLACEABLE	Part of E114
W107		NOT REPLACEABLE	Part of E114
W108		NOT REPLACEABLE	Part of E114
201 thru 699		RECEIVER RADIO: R-353/URD-4 Bendix Part No. OR650056-1	
201 thru 299	6	RECEIVER, SUBASSEMBLY RD SECTION: Bendix Part No. OR280244-1	R-f subsection
B201	1	MOTOR, DIRECT CURRENT: Bendix Part No. C205399-1	Tuning drive

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C201		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220132-75	Ground filter for V201
C202		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM35B472K	Ground filter for V201
C203		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220157-2	Cathode bypass for V201
C204		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220125-39	Cathode filter for V201
C205		CAPACITOR, FIXED, CERAMIC DIELECTRIC: JAN Type No. CC20UJ470K	Screen bypass V201
C206		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220133-41	Phase shifter ground circuit V201
C207		SAME AS C204	Plate coupling V201
C208		CAPACITOR, VARIABLE, AIR DIELECTRIC: Bendix Part No. C219535-3	Oscillator trimmer V202
C209		SAME AS C204	Feedback cathode V202
C210A, B,C		CAPACITOR, VARIABLE, AIR DIELECTRIC: Bendix Part No. OR280010-1	A-oscillator tuning B-tripler tuning C-doubler tuning
C211		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220125-51	Oscillator grid coupling V202
C212		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220097-471	Oscillator plate coupling V202
C213		SAME AS C204	Plate coupling V202
C214		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220133-42	Follower grid coupling V202
C215		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220125-55	Tripler grid coupling V203
C216		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN20A602M	Screen supply by-pass +105V line
C217		SAME AS C212	Screen bypass V203
C218		SAME AS C208	Tripler trimmer plate V203

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C219		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220293-1	Decoupling plate circuit V203
C220		SAME AS C215	Doubler grid coupling V204
C221		SAME AS C219	Screen bypass V204
C222		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM35B103K	B+ bypass
C223		SAME AS C219	Plate decoupling V204
C224		SAME AS C208	Doubler trimmer plate circuit V204
C225		SAME AS C204	Heater bypass V202
C226		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220155-2	Doubler grid coupling V205
C227		NOT USED	
C228		NOT REPLACEABLE	I-f primary trimmer part of Z201
C229		NOT REPLACEABLE	I-f primary temperature compensation part of Z201
C230		NOT REPLACEABLE	I-f primary padder part of Z201
C231		NOT REPLACEABLE	I-f secondary temperature compensation part of Z201
C232		NOT REPLACEABLE	I-f secondary padder part of Z201
C233		NOT REPLACEABLE	I-f secondary trimmer part of Z201
C234		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220028-31	Decoupling plate circuit V206
C235		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220203-6	Suppressor bypass V209
C236		SAME AS C216	I-f AGC bypass

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C237		SAME AS C216	Cathode bypass V209
C238		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM35B562K	Plate decoupling V209
C239		NOT REPLACEABLE	I-f primary trimmer part of Z203
C240		NOT REPLACEABLE	I-f primary temperature compensation part of Z202
C241		NOT REPLACEABLE	I-f primary padder part of Z202
C242		SAME AS C234	B+ bypass
C243		SAME AS C206	Plate coupling V205
C244A, B,C,D,		NOT REPLACEABLE	A-mixer injection tuning B-2nd r-f plate tuning C-1st r-f plate tuning D-antenna tuning Part of Z203
C245		NOT REPLACEABLE	Mixer injection trimmer part of Z203
C246		NOT REPLACEABLE	2nd r-f plate trimmer part of Z203
C247		NOT REPLACEABLE	1st r-f plate trimmer part of Z203
C248		NOT REPLACEABLE	Antenna trimmer part of Z203
C249		NOT REPLACEABLE	Antenna padder part of Z203
C250		SAME AS C204	Screen bypass V205
C251		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220281-1	Test point bypass cathode V205
C252		SAME AS C251	B+ decoupling
C253		SAME AS C204	Heater bypass V205, V209

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C254		SAME AS C251	Test point bypass grid V206
C255		SAME AS C251	Heater bypass V206
C256		SAME AS C251	Heater bypass V206
C257		SAME AS C204	Grid coupling V206
C258		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220129-62	R-f bypass plate V206
C259		SAME AS C204	Grid bypass V207
C260		SAME AS C204	Grid bypass V207
C261		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220132-42	Plate coupling V207
C262		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220132-44	Cathode coupling V207
C263		SAME AS C251	Heater bypass V207
C264		SAME AS C251	Heater bypass V207
C265		SAME AS C251	Grid bypass V207
C266		SAME AS C251	Plate decoupling V207
C267		SAME AS C251	AGC filter
C268		SAME AS C251	Plate decoupling V208
C269		SAME AS C262	Plate decoupling V208
C270		SAME AS C262	Cathode coupling V208
C271		SAME AS C251	Grid bypass V208
C272		SAME AS C251	Heater bypass V208
C273		SAME AS C204	Grid bypass V208
C274		SAME AS C204	Grid bypass V208
C275		SAME AS C204	R-f AGC bypass
C276		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220133-57	I-f AGC bypass
C277		SAME AS C216	I-f AGC bypass

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E201	1	RECEIVER SUBASSEMBLY: Bendix Part No. L203652-5	Receiver cavity
E202	1	I-F CHASSIS SUBASSEMBLY: Bendix Part No. N280142-1	First i-f stage
E203	4	TERMINAL STUD: Bendix Part No. A209506	Tie point
E204		SAME AS E203	Tie point
E205		SAME AS E203	Tie point
E206	4	TERMINAL STUD: Bendix Part No. A209505-9	Tie point
E207		SHIELD, ELECTRON TUBE: Bendix Part No. A243181	For V209
E208		TERMINAL, STUD: Bendix Part No. C243900-4	Tie point
E209		INSULATOR, BUSHING: Bendix Part No. C293172-4	Insulator
E210	3	SHIELD, ELECTRON TUBE: JAN Type No. TS103U01	For V202
E211		SHIELD, ELECTRON TUBE: JAN Type No. TS102U01	For V201
E212		SAME AS E211	For V203
E213		SAME AS E211	For V204
E214		SAME AS E211	For V205
E215		SAME AS E211	For V209
E216		NOT USED	
E217		NOT USED	
E218		ROTOR, CAPACITOR: Bendix Part No. C204839-1	Rotor for C245
E219		SAME AS E218	Rotor for C246
E220		SAME AS E218	Rotor for C247
E221		SAME AS E218	Rotor for C248
E222		STATOR, CAPACITOR: Bendix Part No. C243386-1	Stator for C245
E223		SAME AS E222	Stator for C246
E224		SAME AS E222	Stator for C247
E225		SAME AS E222	Stator for C248
E226	1	SWITCH ASSEMBLY: Bendix Part No. L281925-1	Frequency selection

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E227	1	RECEIVER CAVITY SUBASSEMBLY: Bendix Part No. N280116-1	Part of E201
E228	1	SHAFT: Bendix Part No. OR281999-1	R-f drive
E229	1	R-F SECTION: Bendix Part No. OR280135-1	3-gang assembly
E230		TERMINAL STUD: Bendix Part No. C243900-3	Tie point
E231		SHIELD, TUBE: Bendix Part No. A293343	For V207
H201	2	POINTER: Bendix Part No. C281926-1	For E226
H202	2	SCREW, CAPTIVE: Bendix Part No. L241957-35	For J203
H203		NOT USED	
H204	5	NUT, SELF LOCKING: Bendix Part No. C241890-1	Lock nut
J201		CONNECTOR, RECEPTACLE: JAN Type No. UG-535/U	Antenna input to receiver
J202		SAME AS J201	I-f output
J203		CONNECTOR, RECEPTACLE: Bendix Part No. C223390-13	VFO sample
J204		CONNECTOR, RECEPTACLE: Bendix Part No. A113017-8	Test receptacle
K201		RELAY, ARMATURE: Bendix Part No. L218582-1	High speed clutch
K202		RELAY, ARMATURE: Bendix Part No. L215738-1	Medium speed clutch
K203		RELAY, ARMATURE: Bendix Part No. L218583-1	Low speed clutch
L201		COIL, R-F: Bendix Part No. C215351-2	Grid filter V201
L202		COIL, RADIO FREQUENCY: Bendix Part No. N215544-9	Oscillator tank grid circuit V202
L203	2	COIL, R-F: Bendix Part No. C215466-1	Tripler plate V203
L204	2	COIL, R-F: Bendix Part No. C215467-1	Doubler plate V204
L205		NOT USED	
L206		NOT REPLACEABLE	I-f primary part of Z201
L207		NOT REPLACEABLE	I-f secondary part of Z201
L208		NOT REPLACEABLE	I-f primary part of Z202

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
L209		NOT REPLACEABLE	I-f link part of Z202
L210		NOT REPLACEABLE	Mixer injection inductance adjust part of Z203
L211		COIL, RADIO FREQUENCY: Bendix Part No. C215665-2	Mixer injection coupling
L212		NOT REPLACEABLE	2nd r-f plate inductance adjust part of Z203
L213		NOT REPLACEABLE	1st r-f plate inductance adjust part of Z203
L214		NOT REPLACEABLE	Antenna tuning inductance adjust part of Z203
L215		COIL, R-F: Bendix Part No. C215350-20	Heater choke V206
L216		SAME AS L215	Heater choke V207
L217		COIL, R-F: Bendix Part No. C215350-30	Plate choke V207
L218		SAME AS L217	Plate choke V208
L219		SAME AS L215	Heater choke V208
N201		NOT USED	
N202		NOT USED	
N203	5	PLATE, INDICATOR: Bendix Part No. L247265-1	
0201	6	REDUCTION UNIT: Bendix Part No N280005-1	Speed reducer for B201
0202		BEARING, BALL: Bendix Part No. C240186-2	Bearing for drive shaft
0203		NOT USED	
0204	2	SHAFT: Bendix Part No. N281953-1	Drive shaft
0205	3	RING, RETAINER: Bendix Part No. HC848Y-188	For E226
0206	3	RING, RETAINER: Bendix Part No. HC847G-500	For E226
0207		BEARING, BALL: Bendix Part No. C240186-1	For 0201
0208		SAME AS 0207	For 0201
0209		SAME AS 0207	For 0201

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
0210		SAME AS 0207	For 0201
0211		SAME AS 0207	For 0201
0212		SAME AS 0207	For 0201
0213		GEAR: Bendix Part No. A238189	For 0201
0214		GEAR: Bendix Part No. A202855-4	For 0201
0215		GEAR: Bendix Part No. A238184-2	For 0201
0216		GEAR: Bendix Part No. A238179-2	For 0201
0217		BEARING, BALL: Bendix Part No. C240186-2	For E226
0218		GEAR: Bendix Part No. C238390-1	For 0237
0219		GEAR: Bendix Part No. C238464-5	For 0237
0220		GEAR: Bendix Part No. C238464-4	For 0236
0221		GEAR: Bendix Part No. C238463	Part of 0236
0222		GEAR: Bendix Part No. C238464-1	Part of 0238
0223		SAME AS 0221	Part of 0236
0224		SPRING: Bendix Part No. C239441-3	For 0236
0225		SAME AS 0224	For 0237
0226		SAME AS 0224	For 0238
0227		RING, RETAINER: Bendix Part No. A288839	For H202
0228		RING, RETAINER: Bendix Part No. HC848G-500	For 0236
0229		SAME AS 0228	For 0237
0230		SAME AS 0228	For 0238
0232	3	RING, RETAINER: Bendix Part No. HU848Y-125	Part of 0201
0233		SAME AS 0232	Part of 0201
0234	3	RING, RETAINER: Bendix Part No. HC847G-375	Part of 0201
0236	1	GEAR ASSEMBLY: Bendix Part No. OC202863-16	Part of r-f drive
0237	1	GEAR ASSEMBLY: Bendix Part No. OC202863-17	Part of r-f drive
0238	1	GEAR ASSEMBLY: Bendix Part No. OC202863-18	Part of r-f drive
0241		GEAR ASSEMBLY: Bendix Part No. A202861-1	For E228
0242		GEAR ASSEMBLY: Bendix Part No. A202860-1	For E228
0243		GEAR ASSEMBLY: Bendix Part No. A202859-1	For E228

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
O244		BEARING, BALL: Bendix Part No. C240157-16	Part of E227
O245	2	SHAFT: Bendix Part No. A239587-3	Part of E228
O248	2	SHAFT: Bendix Part No. L249640-1	Part of E226
O249	2	SHAFT: Bendix Part No. C249704-1	Part of O201
O250	2	BLOCK, PRESSURE: Bendix Part No. A237534-1	Part of E226
O251		RING, RETAINER: Bendix Part No. HC848Y-188	Part of E228
P201		CONNECTOR, PLUG: JAN Type No. UG-88/U	Part of W601
P202		SAME AS P201	Part of W602
P203		SAME AS P201	Part of W603
R201		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF105K	Grid filter V201
R202		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF332K	Cathode bias V201
R203		RESISTOR, FIXED, COMPOSITION: JAN Type No.RC20BF122K	Phase shift grid V201
R204		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF102K	Screen isolation V201
R205		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF682K	Plate load V201
R206		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF153K	Plate load V201
R207		SAME AS R203	Phase shift cathode circuit V202
R208		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF392K	Grid bias V202
R209		SAME AS R204	Plate isolation V202
R210		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF152K	Cathode bias V202
R211		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF683K	Grid leak V202
R212		SAME AS R204	Plate load V202
R213		RESISTOR: JAN Type No. RC20BF104K	Grid leak V203

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R214		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF103K	Screen dropping V203
R215		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF223K	Screen dropping V203
R216		RESISTOR: JAN Type No. RC30GF392K	Plate dropping V203
R217		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF473K	Grid leak V204
R218		SAME AS R214	Screen dropping V204
R219		SAME AS R215	Screen dropping V204
R220		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF272K	Plate dropping V204
R221		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF104K	Voltage dropping plate circuit V206
R222		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF273K	Bleeder plate circuit V206
R223		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF105K	Suppressor filter V209
R224		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF221K	Cathode bias V209
R225		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC42GF682K	Plate and screen dropping V209
R226		RESISTOR, FIXED, WIREWOUND: JAN Type No. RW31G162	Plate dropping
R227		SAME AS R226	Plate dropping
R228		SAME AS R213	Grid leak V205
R229		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF271K	Test point divider
R230		NOT USED	
R231		SAME AS R204	Plate and screen isolation V205
R232		SAME AS R222	Screen dropping V205

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R233		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF123K	Plate load V205
R234		SAME AS R213	Grid leak V206
R235		RESISTOR, FIXED, COMPOSITION: JAN Type No.RC20BF102K	Test point filter V204
R236		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF153K	Test point divider grid circuit V206
R237		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF151K	Cathode bias V207
R238		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF103K	Grid filter V207
R239		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC42GF182K	Plate dropping V207
R240		SAME AS R238	AGC filter
R241		SAME AS R239	Plate dropping V208
R242		SAME AS R238	Grid filter V208
R243		SAME AS R237	Cathode bias V208
R244		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF224K	I-f AGC filter
R245		SAME AS R223	I-f AGC filter
S201		NOT REPLACEABLE	Clutch interlock part of K201
S202		SWITCH, SLIDE: Bendix Part No. L218461-1	Reversing switch for B201
S203		SWITCH, ROTARY: Bendix Part No. C293131-2	Sectar selecting
TB201	2	TERMINAL BOARD: Bendix Part No. N280321-1	Component mounting
TB202	2	TERMINAL BOARD: Bendix Part No. C280260-1	R-f drive connections
TB203	2	TERMINAL BOARD: Bendix Part No. C280088-1	Component mounting
TB204	2	TERMINAL BOARD: Bendix Part No. L280138-1	Component mounting
V201		TUBE, ELECTRON: JAN Type No. 5654/6AK5W	Reactance control
V202		TUBE, ELECTRON: JAN Type No. 5670	Oscillator and isolation amplifier

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
V203		SAME AS V201	Frequency tripler
V204		SAME AS V201	Frequency doubler
V205		SAME AS V201	Frequency doubler
V206		TUBE, ELECTRON: JAN Type No. 6F4	Mixer
V207		SAME AS V206	2nd r-f amplifier
V208		SAME AS V206	1st r-f amplifier
V209		TUBE, ELECTRON: JAN Type No. 6AS6	1st i-f amplifier
XV201		SOCKET,TUBE,ELECTRON: Bendix Part No.C287104-1	For V201
XV202		SOCKET, ELECTRON TUBE:JAN Type No.TS103C01	For V202
XV203		SAME AS XV201	For V203
XV204		SAME AS XV201	For V204
XV205		SOCKET, ELECTRON TUBE: Bendix Part No. C287104-1	For V205
XV206		SOCKET, ELECTRON TUBE: Bendix Part No. L202514-2	For V206
XV207		SOCKET, ELECTRON TUBE: Bendix Part No. L202514-1	For V207
XV208		SAME AS XV207	For V208
XV209		SOCKET, ELECTRON TUBE: JAN Type No. TS102C01	For V209
Z201		TRANSFORMER , I-F: Bendix Part No. N203798-9	I-f input
Z202		TRANSFORMER, I-F: Bendix Part No. N207922-1	I-f output
Z203		NOT USED	
Z204		SUPPRESSOR, ELECTRICAL NOISE: Bendix Part No. C220305-1	For B201
Z205		SAME AS Z204	For B201

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
301 - 399		RECEIVER SUBASSEMBLY: Bendix Part No. OR281841-1	
C301		Part of Z301 - Not replaceable	
C302		Part of Z301 - Not replaceable	
C303		Part of Z301 - Not replaceable	
C304		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220133-57	Grid bypass V302
C305		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220133-67	Grid bypass V301
C306		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN20H103M	Test point bypass
C307		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220132-45	Plate bypass V301
C308		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220132-42	Suppressor grid coupling V302
C309		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix No. C220087-1	A-Plate bypass V301 B-Screen bypass V302 C-B+ bypass D-Screen supply bypass
C310		Part of Z302 - Not replaceable	
C311		Part of Z302 - Not replaceable	
C312		Part of Z302 - Not replaceable	
C313		Part of Z302 - Not replaceable	
C314		Part of Z302 - Not replaceable	
C315		Part of Z302 - Not replaceable	
C316 A, B, C, D		SAME AS C309	A-AGC bypass B-Cathode bypass V303 C-Heater bypass V303 D-Suppressor bypass V303

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C317		Part of Z303 - Not replaceable	
C318		Part of Z303 - Not replaceable	
C319		Part of Z303 - Not replaceable	
C320		Part of Z303 - Not replaceable	
C321		Part of Z303 - Not replaceable	
C322		Part of Z303 - Not replaceable	
C323 A, B, C, D		SAME AS C309	A-AGC bypass B-Cathode bypass V304 C-Screen bypass V304 D-Heater bypass V304
C324		Part of Z304 - Not replaceable	
C325		Part of Z304 - Not replaceable	
C326		Part of Z304 - Not replaceable	
C327		Part of Z304 - Not replaceable	
C328		Part of Z304 - Not replaceable	
C329		Part of Z304 - Not replaceable	
C330 A, B, C, D		SAME AS C309	A- B-Grid bypass V305 C-Cathode bypass V305 D-Heater bypass V305
C331		Part of Z305 - Not replaceable	
C332		Part of Z305 - Not replaceable	
C333		Part of Z305 - Not replaceable	
C334		Part of Z305 - Not replaceable	
C335		Part of Z305 - Not replaceable	
C336		Part of Z305 - Not replaceable	

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C337		Part of Z305 - Not replaceable	
C338		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220133-55	Load filter
C339		SAME AS C338	Plate filter V306
C340 A, B		CAPACITOR, FIXED, PAPER, DIELECTRIC: JAN Type No. CP69B4EF504X	A-Cathode bypass V306 B-Plate filter V308
C341 A, B, C, D		SAME AS C309	A-Cathode bypass V307 B-Heater bypass V307 C-Screen bypass V307 D-Load bypass V308
C342		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220125-39	Not on schematic
C343		Part of Z306 - Not replaceable	
C344		Part of Z306 - Not replaceable	
C345		CAPACITOR, FIXED, PAPER, DIELECTRIC: Bendix Part No. L220200-47	
C346 A, B, C, D		SAME AS C309	A-AGC filter V302 B-AGC filter V308 C-AGC filter V307 D-Heater bypass V301
C347		SAME AS C342	RF gain control bypass
C348		SAME AS C342	Load filter V308
C349		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220133-71	Plate coupling V308
C350		SAME AS C349	Cathode bypass V308
C351		SAME AS C349	Cathode bypass V308

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C352		SAME AS C338	Input filter V310A
C353		SAME AS C338	Input filter V310A
C354		SAME AS C338	Plate coupling V310A
C355		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM35B472M	Noise filter grid V313
C356 A, B, C		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220101-1	A-Plate supply filter V309A B-Cathode bypass V309A C-Cathode bypass V312
C357		CAPACITOR, FIXED, PAPER, DIELECTRIC: JAN Type No. CN42E303M	Plate coupling V309A
C358		CAPACITOR, FIXED, MICA, DIELECTRIC: JAN Type No. CM30B222M	Grid coupling V309A
C359		SAME AS C342	Grid bypass V309A
C360 A, B C, D		SAME AS C309	A-Heater circuit bypass V310 B-Plate filter V310B C-Plate bypass V311 D-Grid bypass V311
C361		CAPACITOR, FIXED, MICA, DIELECTRIC: JAN Type No. CM35B822K	Plate coupling V311
C362		CAPACITOR, FIXED, PAPER, DIELECTRIC: JAN Type No. CN20A602M	AGC filter
C363		SAME AS C362	Squelch filter
C364		CAPACITOR, FIXED, PAPER, DIELECTRIC: Bendix Part No. C220028-31	B+ filter
C365		SAME AS C362	Audio filter
C366		SAME AS C362	Audio filter
C367		SAME AS C362	R-f filter
C368		SAME AS C364	B- filter
C369		SAME AS C362	AGC filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C370		SAME AS C362	19V a-c filter
C371		SAME AS C362	6.3V a-c filter
C372		SAME AS C362	Video output filter
C373		SAME AS C362	Video output filter
C374		SAME AS C306	Cathode bypass V302
C375		SAME AS C304	AGC bypass
C376		SAME AS C304	AGC bypass
C377		SAME AS C304	Grid coupling V305
C378		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220133-63	Grid coupling V313
C379		SAME AS C342	Cathode bypass V306
E301		CLIP, CRYSTAL: Bendix Part No. C233301	For Y301
E302		TUBE, SHIELD: JAN Type No. TS103U01	For V309
E303		SAME AS E302	For V310
E304		SAME AS E302	For V311
E305		SAME AS E302	For V313
E306	3	TUBE, SHIELD: JAN Type No. TS103U02	For V312
E307		TUBE, SHIELD: JAN Type No. TS102U01	For V301
E308		SAME AS E307	For V3C2
E309		SAME AS E307	For V303
E310		SAME AS E307	For V304
E311		SAME AS E307	For V305
E312		SAME AS E307	For V307
E313		SAME AS E307	For V306
E314		SAME AS E307	For V308
E315		INSULATOR, BUSHING: Bendix Part No. C293172-4	For R341
E316		TERMINAL STUD: Bendix Part No. C243900-4	Tie points
E317	3	TERMINAL STUD: Bendix Part No. C243901-2	Tie points

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
H301		NOT USED	
H302		CLAMP, ELECTRICAL: Bendix Part No. C205703-1	For C356
H303	2	SCREW, CAPTIVE: Bendix Part No. L241957-3	Mounts unit to receiver frame
H304		SAME AS H303	Mounts unit to receiver frame
H305		SAME AS H303	Mounts unit to receiver frame
H306		SAME AS H303	Mounts unit to receiver frame
J301		CONNECTOR: JAN Type No. UG-290/U	IF input
J302		SOCKET: Bendix Part No. A113017-8	Test socket
L301		Part of Z301, includes L302 - Not replaceable	
L302		Part of Z301, includes L301 - Not replaceable	
L303		Part of Z302 - Not replaceable	
L304		Part of Z302 - Not replaceable	
L305		Part of Z303, includes L306 - Not replaceable	
L306		Part of Z303, includes L305 - Not replaceable	
L307		Part of Z304 - Not replaceable	
L308		Part of Z304, includes L307 - Not replaceable	
L309		Part of Z305 - Not replaceable	
L310		Part of Z305 - Not replaceable	
L311		Part of Z306 - Not replaceable	
L312		Part of Z306 - Not replaceable	
L313		Part of Z307 - Not replaceable	
L314		Part of Z307 - Not replaceable	
L315		Part of Z307 - Not replaceable	
L316		Part of Z301 - Not replaceable	
L317		Part of Z301 - Not replaceable	
L318		COIL, RADIO FREQUENCY: Bendix Part No. C215350-23	B+ supply filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
O301	2	SPRING: Bendix Part No. A239815	For Y301
O302		RETAINER RING: Bendix Part No. A288839	For captive screws
P301		CONNECTOR: JAN Type No. UG-88/U	I-f input
R301		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF473K	Grid leak V301
R302		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF102K	Meter shunt test socket J302
R303		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF333K	Plate dropping V301
R304		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF224K	Suppressor grid lead V302
R305		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF122K	Cathode bias V302
R306		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF392K	Screen dropping V302
R307		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF105K	Grid filter V303
R308		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF221K	Cathode bias V303
R309		SAME AS R306	Screen dropping V303
R310		SAME AS R307	Grid filter V304
R311		SAME AS R308	Cathode bias V304
R312		SAME AS R306	Screen dropping V304
R313		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF474K	AGC voltage divider grid V305
R314		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF471K	Cathode bias V305
R315		SAME AS R306	Screen dropping V305
R316		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF183K	Load filter plate V306

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R317		SAME AS R313	Filter grid V313
R318		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF563K	Load voltage divider V306
R319		SAME AS R318	Load voltage divider V306
R320		RESISTOR, FIXED, FILAMENT: Bendix Part No. BRN10AB2702F	Cathode bias V306
R321		SAME AS R307	Filter grid V311
R322		SAME AS R306	Screen dropping V307
R323		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF225K	AGC voltage divider
R324		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF271K	Cathode bias V307
R325		SAME AS R307	Transformer loading Z306
R326		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF103K	
R327		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF564K	AGC filter
R328		SAME AS R316	Load filter plate V308
R329		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF394K	Load voltage divider V308
R330		SAME AS R329	Voltage divider RF gain control
R331		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF823K	Load voltage divider V308
R332		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF273K	Cathode bias V308
R333		SAME AS R304	Bias voltage divider V308
R334		SAME AS R313	Bias voltage divider V308

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R335		SAME AS R331	Bias voltage divider V308
R336		SAME AS R313	Plate load V308
R337		SAME AS R304	AGC filter plate V308
R338		NOT USED	
R339		SAME AS R332	Bias drop grid V310B
R340		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF274K	Bias limiting cathode V209B
R341		RESISTOR, FIXED, WIREWOUND: JAN Type No. RW30G801	B+ dropping
R342		SAME AS R304	Input filter V310A
R343		SAME AS R304	Grid bias V310A
R344		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF222K	Cathode bias V310A
R345		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF683K	Plate load V310A
R346		SAME AS R307	Diode load V306
R347		RESISTOR, FIXED, FILAMENT: Bendix Part No. BRN10AB3303F	Cathode bias V306
R348		SAME AS R307	Output filter V306
R349		SAME AS R304	Meter multiplier video test
R350		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF682K	Cathode bias V313
R351		SAME AS R350	Cathode bias V313
R352		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF153K	Plate dropping V309A
R353		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF223K	B+ divider
R354		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF562K	B+ filter
R355		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF151K	Cathode bias V309A

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R356		SAME AS R326	Bias divider V309A
R357		SAME AS R313	Plate load V311
R358		SAME AS R313	Grid leak V309A
R359		RESISTOR, FIXED, FILAMENT: Bendix Part No. BRN10AB1202F	Cathode bias V311
R360		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF222K	Cathode bias V311
R361		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF184K	Plate load V311
R362		SAME AS R313	Grid leak V311
R363		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF471K	Cathode bias V312
R364		SAME AS R304	
R365		SAME AS R304	AGC filter V302
R366		SAME AS R307	AGC filter V302
R367		SAME AS R304	Grid coupling V303
R368		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF101K	Parasitic suppressor V303
R369		SAME AS R304	Coupling V304
R370		SAME AS R368	Parasitic suppressor V304
R371		SAME AS R304	Coupling grid V305
R372		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF563K	Compensator Z307
R373		SAME AS R368	Grid coupling V307
R374		RESISTOR, FIXED, FILAMENT: Bendix Part No. BRN10AB1503F	B+ divider
T301		TRANSFORMER, AUDIO FREQUENCY: Bendix Part No. L284339-1	Audio output
V301		ELECTRON: JAN Type No. 6AS6	Crystal oscillator
V302		SAME AS V301	2nd mixer
V303		SAME AS V301	1st i-f amplifier

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
V304		SAME AS V301	2nd i-f amplifier
V305		SAME AS V301	3rd i-f amplifier
V306		ELECTRON TUBE: JAN Type No. 5726/6AL5W	Segment and noise rectifiers
V307		SAME AS V301	AGC i-f amplifier
V308		SAME AS V306	I-f AGC and r-f AGC rectifiers
V309		ELECTRON TUBE: JAN Type No. 5670	1st audio amplifier r-f gain follower
V310		SAME AS V309	Noise amplifier and r-f AGC clamp
V311		SAME AS V309	2nd audio & squelch
V312		ELECTRON TUBE: JAN Type No. 5686	Audio output
V313		SAME AS V309	Video cathode and noise cathode followers
Y301		CRYSTAL UNIT, QUARTZ: Bendix Part No. C221909-18	2nd oscillator
Z301		TRANSFORMER, IF: Bendix Part No. N207922-1	2nd mixer input
Z302		TRANSFORMER, IF: Bendix Part No. N204300-4	1st i-f input
Z303		SAME AS Z302	2nd i-f input
Z304		TRANSFORMER, IF: Bendix Part No. N204300-5	3rd i-f input
Z305		TRANSFORMER, IF: Bendix Part No. N204290-3	Segment rectifier input
Z306		TRANSFORMER, IF: Bendix Part No. N204321-2	AGC rectifier input
Z307		TRANSFORMER, AF: Bendix Part No. L284341-1	Audio interstage
TB301	2	TERMINAL BOARD: Bendix Part No. C281582-1	Component mounting
TB302	2	TERMINAL BOARD: Bendix Part No. L281583-1	Component mounting
XV301		SOCKET, ELECTRON TUBE: JAN Type No. TS102C01	For V301
XV302		SAME AS XV301	For V302
XV303		SAME AS XV301	For V303
XV304		SAME AS XV301	For V304

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
XV305		SAME AS XV301	For V305
XV306		SAME AS XV301	For V306
XV307		SAME AS XV301	For V307
XV308		SAME AS XV301	For V308
XV309	3	SOCKET, ELECTRON TUBE: JAN Type No. TS103C01	For V309
XV310		SAME AS XV309	For V310
XV311		SAME AS XV309	For V311
XV312		SAME AS XV309	For V312
XV313		SAME AS XV309	For V313
XY301		SOCKET, CRYSTAL: Bendix Part No. C221905-1	For Y301
400 - 599	6	RECEIVER, SUBASSEMBLY (MONITOR): Bendix Part No. OR281000-1	
B401		MOTOR, DC: Bendix Part No. C221060-1	Channel selector drive motor
C401		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220125-39	Grid coupling V402B
C402		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-63	Tuning L401
C403		CAPACITOR, FIXED, PAPER, DIELECTRIC: Bendix Part No. C220087-1	A-Plate bypass V401 B-Crystal heater bypass C-Heater circuit bypass D-1st oscillator meter bypass
C404		SAME AS C401	Plate coupling V401
C405		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-61	Plate tuning V401
C406		CAPACITOR, FIXED, MICA, DIELECTRIC: JAN Type No. CC20UJ220J	Trimmer L402
C407		SAME AS C401	Grid coupling V403A

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C408		SAME AS C403	A-Cathode bypass V403B B-Heater circuit bypass C-Plate bypass V402B D-Plate bypass V402A
C409		NOT USED	
C410		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220132-44	Plate tuning V403A
C411		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-51	Plate tuning V403A
C412		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-57	Plate tuning V403A
C413		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-62	Plate tuning V403A
C414		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-66	Plate tuning V403A
C415		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-70	Plate tuning V403A
C416		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-74	Plate tuning V403A
C417		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-39	Plate tuning V403A
C418		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-77	Plate tuning V403A
C419		SAME AS C418	Plate tuning V403A
C420		CAPACITOR, VARIABLE, AIR, DIELECTRIC: Bendix Part No. C219535-2	Plate trimmer V403B
C421		CAPACITOR, FIXED, MICA, DIELECTRIC: Bendix Part No. C220129-58	Plate tuning V403A
C422		SAME AS C402	Part of Z402
C423		SAME AS C402	Part of Z402
C424		SAME AS C403	A- Not used B-200V d-c bypass C-Not used D-Plate bypass V403A

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C425		SAME AS C403	A-Screen bypass V405 B-Heater circuit bypass C-Screen bypass V404 D-Plate bypass V404
C426		SAME AS C421	Tuning Z401
C427		SAME AS C420	Trimmer Z401
C428		SAME AS C410	Grid tuning V402A
C429		SAME AS C411	Grid tuning V402A
C430		SAME AS C412	Grid tuning V402A
C431		SAME AS C413	Grid tuning V402A
C432		SAME AS C414	Grid tuning V402A
C433		SAME AS C415	Grid tuning V402A
C434		SAME AS C416	Grid tuning V402A
C435		SAME AS C417	Grid tuning V402A
C436		SAME AS C418	Grid tuning V402A
C437		SAME AS C418	Grid tuning V402A
C438		SAME AS C401	Cathode coupling V402A
C440		SAME AS C421	Grid coupling V402
C441		Part of Z403 - Not replaceable	
C442		Part of Z403 - Not replaceable	
C443		CAPACITOR: Bendix Part No. C220132-42	Grid coupling V404
C444		SAME AS C414	Cathode bypass V404
C445		Part of Z404 - Not replaceable	
C446		Part of Z404 - Not replaceable	
C447		CAPACITOR: Bendix Part No. C220125-63	Grid coupling V405
C448		SAME AS C403	A-Cathode bypass V405 B-Meter bypass V406 C-Plate bypass V406 D-Meter bypass V406
C449		CAPACITOR: Bendix Part No. C220129-50	Cathode bypass V406

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C450		SAME AS C449	Feedback grid V406
C451		SAME AS C401	Plate bypass V406
C452		SAME AS C403	A-Grid bypass V411 B-Plate bypass V405 C-Screen bypass V407 D-Cathode bypass V411
C453		CAPACITOR: Bendix Part No. C220129-49	Cathode bypass V406
C454		SAME AS C410	Feedback V406
C455		Part of Z405 - Not replaceable	
C456		Part of Z405 - Not replaceable	
C457		SAME AS C447	Grid coupling V407
C458		SAME AS C401	Grid bypass V408
C459		SAME AS C403	A-Meter bypass V409 B-Meter bypass V409 C-Grid bypass V411 D-Cathode bypass V407
C460		Part of Z406 - Not replaceable	
C461		Part of Z406 - Not replaceable	
C462		SAME AS C401	Plate coupling V408
C463		SAME AS C403	A-Cathode bypass V410 B-Plate bypass V410 C-Meter bypass V410 D-Plate bypass V410
C464		Part of Z407 - Not replaceable	
C465		Part of Z407 - Not replaceable	
C466		SAME AS C401	R-f bypass cathode V409
C467		SAME AS C401	R-f bypass cathode V409
C468		SAME AS C401	Plate bypass V410
C469		SAME AS C453	Feedback V410

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C470		SAME AS C449	Cathode V410
C471		SAME AS C401	Grid coupling V410
C472		SAME AS C401	Plate bypass V410
C473		SAME AS C401	Plate bypass V411
C474		CAPACITOR: JAN Type No. CN42E303N	Spark suppressor K401
C475		SAME AS C474	Spark suppressor K402
C476		SAME AS C474	Spark suppressor K406
C477		Part of E402 - Not replaceable	
C478		Part of E403 - Not replaceable	
C479		CAPACITOR: JAN Type No. CN20H103M	R-f filter
C480		SAME AS C479	R-f filter
C481		SAME AS C479	R-f filter
C482		SAME AS C479	R-f filter
C483		SAME AS C479	R-f filter
C484		SAME AS C479	R-f filter
C485		SAME AS C479	R-f filter
C486		SAME AS C479	R-f filter
C487		SAME AS C479	R-f filter
C488		SAME AS C479	R-f filter
C489		SAME AS C479	R-f filter
C490		SAME AS C479	R-f filter
C491		SAME AS C479	R-f filter
C492		SAME AS C479	R-f filter
C493		SAME AS C479	R-f filter
C494		SAME AS C479	R-f filter
C495		SAME AS C479	R-f filter
C496		CAPACITOR: Bendix Part No. C220028-31	R-f filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C497		SAME AS C496	R-f filter
C498		SAME AS C496	R-f filter
C499		SAME AS C496	R-f filter
C500		SAME AS C447	R-f filter
C501		CAPACITOR: JAN Type No. CN20A602M	R-f filter
C502		SAME AS C479	R-f filter
C503		SAME AS C401	Plate bypass V411
E401	6	OVEN, CRYSTAL: Bendix Part No. N200448-1	Crystal oven
E402	6	OVEN, CRYSTAL: Bendix Part No. L205628-2	Crystal oven
E403	6	OVEN, CRYSTAL: Bendix Part No. N205651-2	Crystal oven
E404		NOT USED	
E405		SHIELD, TUBE: JAN Type No. TS102U01	For V404
E406		SAME AS E405	For V405
E407		SAME AS E405	For V407
E408		SAME AS E405	For V409
E409		SHIELD, TUBE: JAN Type No. TS103U01	For V401
E410		SAME AS E409	For V402
E411		SAME AS E409	For V403
E412		SAME AS E409	For V406
E413		SAME AS E409	For V408
E414		SAME AS E409	For V410
E415		SAME AS E409	For V411
E416		TERMINAL STUD: Bendix Part No. C243766-1	Tie point
E417		TERMINAL STUD: Bendix Part No. C243900-4	Tie point
E418 thru E424		NOT USED	
E425		TERMINAL STUD: Bendix Part No. A214459	Tie point
E426		SAME AS E425	Tie point
E427		NOT USED	

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E428		SOCKET ASSEMBLY, CRYSTAL: Bendix Part No. N206443-1	For E402
E429		NOT USED	
E430		SOCKET ASSEMBLY, CRYSTAL: Bendix Part No. N206388-1	For E403
E431		TERMINAL STUD: Bendix Part No. C243901-2	Tie point
H401	2	SCREW, CAPTIVE: Bendix Part No. L241957-4	For mounting monitor
H402		SAME AS H401	For mounting monitor
H403		SAME AS H401	For mounting monitor
H404		SAME AS H401	For mounting monitor
H405		PIN, TAPER: Bendix Part No. HP789R60-014	For 0429
H406		SAME AS H405	For 0429
H407		SAME AS H405	For 0429
H408		SAME AS H405	For 0429
H409		SAME AS H405	For 0429
H410		PIN, TAPER: Bendix Part No. HSP789R-1	For 0419
J401		CONNECTOR, RECEPTACLE: JAN Type No. UG-290/U	VFO input
J402		CONNECTOR, RECEPTACLE: Bendix Part No. A113017-8	
K401	6	RELAY, ARMATURE: Bendix Part No. N205865-7	2nd digit clutch
K402		SAME AS K401	3rd digit clutch
K403	6	RELAY: Bendix Part No. N205865-8	4th digit clutch
K404		RELAY, ARMATURE: Bendix Part No. N218269-1	2nd digit bridge
K405		SAME AS K404	3rd digit bridge
K406		SAME AS K404	4th digit bridge
L401		COIL, RADIO FREQUENCY: Bendix Part No. N215544-10	Plate V401
L402		COIL, RADIO FREQUENCY: Bendix Part No. N215544-11	Plate V401
L403		NOT USED	
L404		COIL, RADIO FREQUENCY: Bendix Part No. C215350-11	Plate V402B
L405		Part of Z401 - Not replaceable	
L406		Part of Z401 - Not replaceable	

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
L407		Part of Z402 - Not replaceable	
L408		Part of Z402 - Not replaceable	
L410		Part of Z403 - Not replaceable	
L411		Part of Z403 - Not replaceable	
L412		COIL, RADIO FREQUENCY: Bendix Part No. C217337-2	Cathode V404
L413		Part of Z404 - Not replaceable	
L414		Part of Z404 - Not replaceable	
L415		COIL, RADIO FREQUENCY: Bendix Part No. C215351-2	Cathode V406
L416		SAME AS L415	Cathode V406
L417		Part of Z405 - Not replaceable	
L418		Part of Z405 - Not replaceable	
L419		Part of Z406 - Not replaceable	
L420		Part of Z406 - Not replaceable	
L421		Part of Z407 - Not replaceable	
L422		Part of Z407 - Not replaceable	
L423		SAME AS L415	
L424		COIL, RADIO FREQUENCY: Bendix Part No. C215350-24	Heater circuit choke
L425		SAME AS L424	Heater circuit choke
L426		COIL, RADIO FREQUENCY: Bendix Part No. C215350-7	Choke cathode V402B
L427		SAME AS L424	R-f filter
L428		SAME AS L424	R-f filter
L429		SAME AS L424	R-f filter
L430		SAME AS L424	R-f filter
L431		SAME AS L424	R-f filter
L432		SAME AS L424	R-f filter
L433		SAME AS L424	R-f filter
L434		SAME AS L424	R-f filter
L435		SAME AS L424	R-f filter
L436		SAME AS L424	R-f filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
L437		SAME AS L424	R-f filter
L438		COIL, RADIO FREQUENCY: Bendix Part No. 215350-23	R-f filter
L439		SAME AS L438	R-f filter
L440		SAME AS L424	R-f filter
L441		SAME AS L438	R-f filter
L442		SAME AS L424	R-f filter
L443		SAME AS L424	R-f filter
L444		SAME AS L424	R-f filter
L445		SAME AS L424	R-f filter
L446		SAME AS L424	R-f filter
L447		SAME AS L424	R-f filter
L448		SAME AS L415	R-f filter
L449		SAME AS L424	R-f filter
L450		SAME AS L424	R-f filter
O401		RING, RETAINER: Bendix Part No. A288839	For H401
O402		SAME AS O401	For H402
O403		SAME AS O401	For H403
O404		SAME AS O401	For H404
O405		BALL BEARING: Bendix Part No. C240186-1	For O420
O406		SAME AS O405	For O420
O407		SAME AS O405	For O421
O408		SAME AS O405	For O421
O409		SAME AS O405	For O422
O410		SAME AS O405	For O422
O411		SAME AS O405	For O423
O412		SAME AS O405	For O423
O413		SAME AS O405	For O416
O414		SAME AS O405	For O417
O415		SAME AS O405	For O418

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
O416		GEAR: Bendix Part No. C238415	Part of gear train
O417		SAME AS O416	Part of gear train
O418		SAME AS O416	Part of gear train
O419		GEAR: Bendix Part No. A238409	Part of gear reduction unit
O420		GEAR ASSEMBLY: Bendix Part No. C205146-1	Drives O421
O421		GEAR ASSEMBLY: Bendix Part No. C205147-1	Drives O422
O422		GEAR ASSEMBLY: Bendix Part No. C205148-1	Drives O423
O423		GEAR ASSEMBLY: Bendix Part No. C205149-1	Part of gear reduction unit
O427		GEAR: Bendix Part No. A238164-3	For B401
O428		NOT USED	
O429		PLATE, COUPLING: Bendix Part No. A228705-2	For K401
O430		SAME AS O429	For K402
O431		SAME AS O429	For K403
O432		CLUTCH, FRICTION: Bendix Part No. L205866-1	Part of K401
O433		SAME AS O432	Part of K402
O434		CLUTCH, FRICTION: Bendix Part No. L205866-3	Part of K403
O435		GEAR: Bendix Part No. C205678-1	Part of drive
O436		SAME AS O435	Part of drive
O437		SAME AS O435	Part of drive
P401		CONNECTOR, PLUG: JAN Type No. UG-88/U	Output VFO part of W603
R401		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF221K	Parasitic suppressor plate V401
R402		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF104K	Grid leak V401
R403		SAME AS R401	Meter shunt V401
R404		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF102K	Cathode bias V401
R405		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF332K	Cathode bias V401

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R406		SAME AS R405	Plate decoupler V401
R407		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF474K	Grid leak V403A
R408		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF471K	Cathode bias V402B
R409		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF102K	Plate decoupler V402B
R410		SAME AS R407	Grid leak V403B
R411		SAME AS R409	Cathode bias V403B
R412		Part of Z401 - Not replaceable	
R413		Part of Z401 - Not replaceable	
R414		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF394K	Plate dropping V403A
R415		SAME AS R401	Parasitic suppressor V402A
R416		SAME AS R405	Cathode bias V402A
R417		Part of Z403 - Not replaceable	
R418		Part of Z403 - Not replaceable	
R419		SAME AS R409	Plate decoupling V402A
R420		SAME AS R402	Grid leak V404
R421		RESISTOR: JAN Type No. RC30GF333K	Screen dropping V404
R422		Part of Z404 - Not replaceable	
R423		Part of Z404 - Not replaceable	
R424		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF332K	Plate decoupling V404
R425		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF224K	Grid leak V406
R426		SAME AS R404	Meter shunt V406
R427		SAME AS R402	Grid leak V405
R428		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF331K	Cathode bias V405

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R429		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF223K	Screen dropping V405
R430		SAME AS R409	Plate decoupling V406
R431		SAME AS R425	Grid leak V406
R432		SAME AS R404	Meter shunt V406
R433		Part of Z405 - Not replaceable	
R434		Part of Z405 - Not replaceable	
R435		SAME AS R402	Grid leak V407
R436		SAME AS R428	Cathode bias V407
R437		SAME AS R429	Screen dropping V407
R438		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF105K	Grid lead V408
R439		SAME AS R402	R-f filter grid V408
R440		SAME AS R409	Plate decoupling V407
R441		SAME AS R409	Cathode bias V410
R442		SAME AS R407	Plate load V408
R443		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF473K	Meter shunt V408
R444		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC10BF683J	Load V409
R445		SAME AS R444	Load V409
R446		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF124K	Meter isolation V409
R447		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF334K	Meter isolation V409
R448		SAME AS R409	Plate decoupling V410
R449		SAME AS R425	Grid leak V410
R450		SAME AS R404	Meter shunt V410
R451		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF275J	Grid coupling V411

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R452		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF184J	Grid leak V411
R453		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF152K	Cathode bias V411
R454		SAME AS R407	R-f filter V411
R455		SAME AS R407	Grid leak V410
R456		SAME AS R409	Plate decoupling V410
R457		RESISTOR, FIXED, WIREWOUND: Bendix Part No. C220572-1	Holding K401
R458		RESISTOR, FIXED, WIREWOUND: JAN Type No. RC30GF471K	Spark suppressor K401
R459		SAME AS R457	Holding K402
R460		SAME AS R458	Spark suppressor K402
R461		SAME AS R457	Holding K403
R462		SAME AS R458	Spark suppressor K403
R463		RESISTOR, FIXED, WIREWOUND: Bendix Part No. C220545-1	3rd digit bridge
R464		SAME AS R463	2nd digit bridge
R465		SAME AS R463	4th digit bridge
R466-1		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF100J	Compensation R464
R466-2		SAME AS R466-1	
R466-3		SAME AS R466-1	
R467-1		SAME AS R466-1	Compensation R463
R467-2		SAME AS R466-1	
R467-3		SAME AS R466-1	
R468		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF825J	Feedback V411
R469		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF685J	Feedback V411

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
S401		Part of E401 - Not replaceable	
S402		Part of E401 - Not replaceable	
S403		SWITCH, ROTARY: Bendix Part No. L218598-1	A-1st digit selector B-Tuning primary Z401 C-Tuning secondary Z401 D-Motor control amplifier disabling E-Segment selector F-1st and 2nd digit bridge positioning
S404		SWITCH, ROTARY: Bendix Part No. L218145-215	A-3rd digit bridge positioning B-Crystal selector C-Crystal selector
S405		SWITCH, ROTARY: Bendix Part No. L218145-214	A-4th digit bridge positioning B-Crystal selector C-Crystal selector D-Crystal selector
S406		NOT USED	
S407		NOT USED	
S408		Part of E402 - Not replaceable	
S409		Part of E402 - Not replaceable	
S410		Part of E4C3 - Not replaceable	
S411		Part of E403 - Not replaceable	
V401		ELECTRON, TUBE: JAN Type No. 5670	1st oscillator and frequency quintupler
V402		SAME AS V401	1st mixer and isolation amplifier
V403		SAME AS V401	Harmonic generator and frequency doubler
V404		ELECTRON, TUBE: JAN Type No. 5654/6AK5W	2nd mixer
V405		ELECTRON, TUBE: JAN Type No. 6AS6	3rd mixer
V406		SAME AS V401	2nd and 3rd oscillator

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
V407		SAME AS V405	4th mixer
V408		SAME AS V401	Clutch control
V409		ELECTRON, TUBE: JAN Type No. 5726/6AL5W	Discriminator
V410		SAME AS V401	4th oscillator and cathode follower
V411		SAME AS V401	Motor control
Y401		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-1	1st oscillator frequency control
Y402		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-3	2nd oscillator frequency control
Y403		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-2	2nd oscillator frequency control
Y404		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-6	2nd oscillator frequency control
Y405		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-5	2nd oscillator frequency control
Y406		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-4	2nd oscillator frequency control
Y407		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-11	3rd oscillator frequency control
Y408		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-10	3rd oscillator frequency control
Y409		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-9	3rd oscillator frequency control
Y410		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-8	3rd oscillator frequency control
Y411		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-7	3rd oscillator frequency control
Y412		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-15	3rd oscillator frequency control
Y413		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-14	3rd oscillator frequency control
Y414		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-13	3rd oscillator frequency control

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
Y415		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-12	3rd oscillator frequency control
Y416		SAME AS Y405	3rd oscillator frequency control
Y417		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-17	4th oscillator frequency control
Y418		CRYSTAL UNIT, QUARTZ: Bendix Part No. L221909-16	4th oscillator frequency control
Z401		TRANSFORMER, RADIO FREQUENCY: Bendix Part No. L205602-3	Harmonic generator V403
Z402		TRANSFORMER, RADIO FREQUENCY: Bendix Part No. N206859-2	Frequency doubler V403B
Z403		COIL ASSEMBLY, RF: Bendix Part No. L205604-4	1st bandpass V402A
Z404		TRANSFORMER, RF: Bendix Part No. L215724-3	2nd bandpass V404
Z405	6	TRANSFORMER, RF: Bendix Part No. L205606-3	3rd bandpass V405
Z406	6	TRANSFORMER, RF: Bendix Part No. L205603-3	4th bandpass V407
Z407	6	TRANSFORMER, RF: Bendix Part No. L205605-3	Discriminator V409
HR401		Part of E401 - Not replaceable	
HR402		Part of HR407 - Not replaceable	
HR404		Part of HR407 - Not replaceable	
HR405		Part of HR408 - Not replaceable	
HR406		Part of HR408 - Not replaceable	
HR407		Part of E402 - HEATING ELEMENT: Bendix Part No. N206472-1	
HR408		Part of E403 - HEATING ELEMENT: Bendix Part No. N206374-1	
TB401	2	TERMINAL BOARD: Bendix Part No. L293923-1	Component mounting
TB402	2	TERMINAL BOARD: Bendix Part No. C281643-1	Interconnecting
TB403		NOT USED	
TB404	2	TERMINAL BOARD: Bendix Part No. C281768-1	Component mounting

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
TB405	2	TERMINAL BOARD: Bendix Part No. C281924-1	Component mounting
XE401		SOCKET, ELECTRON TUBE: Bendix Part No. C223248-1	For E401
XV401		SOCKET, ELECTRON TUBE: JAN Type No. TS103C01	For V401
XV402		SAME AS XV401	For V402
XV403		SAME AS XV401	For V403
XV404		SOCKET, ELECTRON TUBE: JAN Type No. TS102C01	For V404
XV405		SAME AS XV404	For V405
XV406		SAME AS XV401	For V406
XV407		SAME AS XV404	For V407
XV408		SAME AS XV401	For V408
XV409		SAME AS XV404	For V409
XV410		SAME AS XV401	For V410
XV411		SAME AS XV401	For V411

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C601		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN20H103M	R-f filter
C602		SAME AS C601	R-f filter
C603		SAME AS C601	R-f filter
C604		SAME AS C601	R-f filter
C605		SAME AS C601	R-f filter
C606		SAME AS C601	R-f filter
C607		NOT USED	
C608		SAME AS C601	R-f filter
C609		SAME AS C601	R-f filter
C610		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN43E503M	R-f filter
C611		NOT USED	
C612		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220250-2	R-f filter
C613		SAME AS C612	R-f filter
C614		SAME AS C612	R-f filter
C615		SAME AS C612	R-f filter
C616		SAME AS C601	R-f filter
C617		NOT USED	
C618		SAME AS C601	R-f filter
C619		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP53B5EF254V	A-6.3V heater circuit filter B-19V heater circuit filter C-positive bridge filter
C620		NOT USED	
C621		NOT USED	
C622		NOT USED	
C623		NOT USED	
C624		SAME AS C601	I-f filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C625		SAME AS C601	I-f filter
C626		SAME AS C601	I-f filter
C627		SAME AS C601	I-f filter
C628		SAME AS C612	I-f filter
C629		SAME AS C601	I-f filter
C630		SAME AS C601	I-f filter
C631		NOT USED	
C632		NOT USED	
C633		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN20A602M	I-f filter
C634		SAME AS C633	I-f filter
C635		SAME AS C612	I-f filter
C636		SAME AS C633	I-f filter
C637		SAME AS C633	I-f filter
C638		NOT USED	
C639		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP53B1EE504X	Heater bypass
C640		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220077-1	R-f filter
C641		SAME AS C640	R-f filter
C642		SAME AS C640	R-f filter
C643		SAME AS C640	R-f filter
C644		SAME AS C640	R-f filter
C645		SAME AS C640	R-f filter
C646		SAME AS C640	R-f filter
C647		SAME AS C640	R-f filter
C648		SAME AS C640	R-f filter
C649		SAME AS C640	R-f filter
C650		SAME AS C640	R-f filter
C651		SAME AS C640	R-f filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C652		SAME AS C640	R-f filter
C653		SAME AS C640	R-f filter
C654		SAME AS C640	R-f filter
C655		SAME AS C640	R-f filter
C656		SAME AS C640	R-f filter
C657		SAME AS C640	R-f filter
C658		SAME AS C640	R-f filter
C659		SAME AS C640	R-f filter
C660		SAME AS C640	R-f filter
C661		SAME AS C640	R-f filter
C662		SAME AS C640	R-f filter
C663		SAME AS C640	R-f filter
C664		SAME AS C640	R-f filter
C665		SAME AS C640	R-f filter
C666		SAME AS C640	R-f filter
C667		SAME AS C640	R-f filter
C668		SAME AS C640	R-f filter
C669		SAME AS C640	R-f filter
C670		SAME AS C640	R-f filter
C671		SAME AS C640	R-f filter
C672		SAME AS C640	R-f filter
C673		SAME AS C640	R-f filter
C674		SAME AS C640	R-f filter
C675		SAME AS C640	R-f filter
C676		SAME AS C640	R-f filter
C677		SAME AS C640	R-f filter
C678		SAME AS C640	R-f filter
C679		SAME AS C640	R-f filter
C680		SAME AS C640	R-f filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C681		SAME AS C640	R-f filter
C682		SAME AS C640	R-f filter
C683		SAME AS C640	R-f filter
C684		SAME AS C640	R-f filter
C685		SAME AS C640	R-f filter
C686		SAME AS C640	R-f filter
C687		SAME AS C640	R-f filter
C688		SAME AS C640	R-f filter
C689		SAME AS C640	R-f filter
E601	3	TERMINAL: Bendix Part No. A209510	Tie point
H601	2	SCREW, CAPTIVE: Bendix Part No. A241484-1	For mounting receiver to cabinet
H602		NOT USED	
H603	3	CAP, RECEPTACLE ASSEMBLY: Bendix Part No. A233654-2	For H606
H604		SAME AS H603	For H607
H605		SAME AS H603	For H608
H606		FASTENER, SPRING LOCK: Bendix Part No. 0A233481-1	For securing cover
H607		SAME AS H606	For securing cover
H608		SAME AS H606	For securing cover
H609		HOLDER, TUBE: Bendix Part No. L74947-2	For K605
H610		FASTENER, SPRING LOCK: Bendix Part No. No. C241798-10	For cover
I601		LAMP, INCANDESCENT: JAN Type No. AN3140-327	Lock-up indicator
J601		CONNECTOR, ADAPTER: JAN Type No. UG-414/U	A-antenna B-signal input
J602		CONNECTOR,RECEPTACLE: JAN Type No. AN3102A-28-21P	Chassis connector
J603		CONNECTOR, RECEPTACLE: Bendix Part No. L223234	R-f head connector

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
J604		CONNECTOR, RECEPTACLE: Bendix Part No. L223212-7	I-f chassis connector
J605		SAME AS J603	Monitor chassis connector
J606		CONNECTOR, RECEPTACLE: Bendix Part No. C287186-1	Channel selector connector
K601		RELAY, ARMATURE: Bendix Part No. L218581-1	Clutch control
K602		SAME AS K601	Low discriminator control
K603		SAME AS K601	High discriminator control
K604		SAME AS K601	Drive protection
K605		RELAY, THERMAL: Bendix Part No. C218265-7	Time delay
K606		SAME AS K601	1st digit control
L601		COIL, RADIO FREQUENCY: Bendix Part No. C215350-24	R-f filter
L602		SAME AS L601	R-f filter
L603		SAME AS L601	R-f filter
L604		SAME AS L601	R-f filter
L605		SAME AS L601	R-f filter
L606		SAME AS L601	R-f filter
L607		SAME AS L601	R-f filter
L608		SAME AS L601	R-f filter
L609		COIL, R-F: Bendix Part No. C215350-23	R-f filter
L610		SAME AS L601	R-f filter
L611		NOT USED	
L612		SAME AS L601	R-f filter
L613		SAME AS L601	R-f filter
L614		SAME AS L601	R-f filter
L615		SAME AS L601	R-f filter
L616		SAME AS L609	R-f filter
L617		NOT USED	

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
L618		SAME AS L601	R-f filter
L619		SAME AS L609	R-f filter
L620		SAME AS L609	R-f filter
L621		SAME AS L609	R-f filter
L622		SAME AS L609	R-f filter
L623		SAME AS L601	R-f filter
L624		SAME AS L601	R-f filter
L625		SAME AS L601	R-f filter
L626		SAME AS L601	R-f filter
L627		SAME AS L601	R-f filter
L628		SAME AS L601	R-f filter
L629		SAME AS L601	R-f filter
L630		SAME AS L601	R-f filter
L631		SAME AS L609	R-f filter
L632		SAME AS L601	R-f filter
L633		SAME AS L601	R-f filter
L634		NOT USED	
L635		NOT USED	
L636		NOT USED	
L637		SAME AS L601	R-f filter
L638		SAME AS L601	R-f filter
L639		SAME AS L601	R-f filter
L640		SAME AS L601	R-f filter
L641		SAME AS L601	R-f filter
L642		NOT USED	
L643		COIL, RADIO FREQUENCY: Bendix Part No. C215350-30	R-f filter
L644		SAME AS L643	R-f filter
L645		SAME AS L643	R-f filter
L646		SAME AS L643	R-f filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
L647		SAME AS L643	R-f filter
L648		SAME AS L643	R-f filter
L649		SAME AS L643	R-f filter
L650		SAME AS L643	R-f filter
L651		SAME AS L643	R-f filter
L652		SAME AS L643	R-f filter
L653		SAME AS L643	R-f filter
L654		SAME AS L643	R-f filter
L655		SAME AS L643	R-f filter
L656		SAME AS L643	R-f filter
L657		SAME AS L643	R-f filter
L658		SAME AS L643	R-f filter
L659		SAME AS L643	R-f filter
L660		SAME AS L643	R-f filter
L661		SAME AS L643	R-f filter
L662		SAME AS L643	R-f filter
L663		SAME AS L643	R-f filter
L664		SAME AS L643	R-f filter
L665		SAME AS L643	R-f filter
L666		SAME AS L643	R-f filter
L667		SAME AS L643	R-f filter
N601		DIAL, CONTROL: Bendix Part No. C280037-1	For S606
N602		DIAL, CONTROL: Bendix Part No. C280037-2	For S603
N603		DIAL, CONTROL: Bendix Part No. C280037-3	For S601
N604		DIAL, CONTROL: Bendix Part No. C280037-4	For S604
N605		SAME AS N604	For S605
N606	2	POINTER, INDICATOR ASSY: Bendix Part No. C280076-1	For R605
N607		SAME AS N606	For R606
O601	2	GASKET: Bendix Part No. L237409-3	Seal for front panel

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
P601A		CONNECTOR, PLUG: JAN Type No. UG-88/U	Antenna signal input, part of W601
P601B		CONNECTOR, PLUG: JAN Type No. UG-88/U	Antenna signal input, part of W601
P602		CONNECTOR, PLUG: JAN Type No. AN3108B-28-21S	Receiver, frame disconnect
P603		CONNECTOR, PLUG: Bendix Part No. L223229-1	Chassis input connector
P604		CONNECTOR, PLUG: Bendix Part No. L223227	Chassis input connector
P605		CONNECTOR, PLUG: Bendix Part No. L223229	Chassis input connector
P606		CONNECTOR, PLUG: Bendix Part No. L287185-1	Channel setup connector
R601		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC42GF822K	Drop K602
R602		RESISTOR, FIXED, WIREWOUND: JAN Type No. RW30G250	Drop K606
R603		RESISTOR, FIXED, WIREWOUND: JAN Type No. RW32G5R0	Drop K605
R604		RESISTOR, VARIABLE: Bendix Part No. L219628-1	Audio level control
R605		RESISTOR, VARIABLE: JAN Type No. RA25A2SD8R0AK	Bridge balancing
R606		SAME AS R605	Bridge balancing
R607		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF333K	Squelch
R608-1		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF100J	Bridge compensation
R608-2		SAME AS R608-1	Bridge compensation
R608-3		SAME AS R608-1	Bridge compensation
R609-1		SAME AS R608-1	Bridge compensation
R609-2		SAME AS R608-1	Bridge compensation
R609-3		SAME AS R608-1	Bridge compensation
R610		RESISTOR, FIXED, WIREWOUND: Bendix Part No. C220545-1	Channel selector bridge

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R611		SAME AS R610	Channel selector bridge
R612		SAME AS R610	Channel selector bridge
R613		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF683K	Squelch
R614		RESISTOR, FIXED: JAN Type No. RC20GF101K	Drop K604
S601		SWITCH, ROTARY: Bendix Part No. C218500-8	Local-remote
S602		SWITCH, SENSITIVE: Bendix Part No. 0A119536-7	Reset K604
S603		SWITCH, ROTARY: Bendix Part No. C218500-9	1st digit control
S604		SWITCH, ROTARY: Bendix Part No. C218500-7	2nd digit control
S605		SAME AS S604	3rd digit control
S606		SAME AS S604	4th digit control
W601		CABLE ASSEMBLY, RADIO FREQUENCY: Bendix Part No. L212676-7	Patch cable
W602		SAME AS W601	Patch cable
W603		SAME AS W601	Patch cable
TB601	2	TERMINAL BOARD: Bendix Part No. L281980-1	Monitor interconnector
TB602	2	TERMINAL BOARD, Bendix Part No. L281979-1	I-f interconnect
XI601		LAMPHOLDER: Bendix Part No. C208319-4	For I601
XI601A		LAMPHOLDER ASSY.: Bendix Part No. C206119-1	Part of XI601
XI601B	4	LAMPHOLDER SECTION: Bendix Part No. C206118-1	Part of XI601
XK605		SOCKET: JAN Type No. TS101P01	For K605

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
700 thru 799		POWER SUPPLY: Bendix Part No. OR650017-1	
C701		CAPACITOR, FIXED, PAPER DIELECTRIC: Spec. No. JAN-C-25, Type No. CP70B1DF106V	B+ filter plate V704
C702		CAPACITOR, FIXED, PAPER DIELECTRIC: Spec. No. JAN-C-91, Type No. CN43E203M	Filter plate circuit V703
C703		CAPACITOR, FIXED, PAPER DIELECTRIC: Spec. No. JAN-C-91, Type No. CN43E104M	Grid coupling V703
E701		SHIELD, ELECTRON TUBE: Spec. No. JAN-S-28A, Type No. TS102U01	For V703
E702	3	TERMINAL, STUD: Bendix Part No. C243900-4	Tie point
F701		FUSE, CARTRIDGE: Bendix Part No. OC221603-602	Power fuse a-c line
F702		SAME AS F701	Power fuse a-c line
F703		FUSE, CARTRIDGE: Bendix Part No. OC221603-202	Power fuse for T702
F704		FUSE, CARTRIDGE: Bendix Part No. OC221603-5371	B+ fuse T701
F705		FUSE, CARTRIDGE: Bendix Part No. OC221603-6103	Low voltage fuse for CR701
F706		SAME AS F703	Bridge power for L702
H701		CLAMP, ELECTRICAL: Bendix Part No. L74947-3	For V701
H702		SAME AS H701	For V704
H703		CLAMP, ELECTRICAL: Bendix Part No. L74947-1	For V702
H704	2	BOLT, REDUCED SHANK: Bendix Part No. A241484-1	For mounting panel
H705	3	COVER, ELECTRICAL CONNECTOR: Bendix Part No. C243661-1	Cover for J702
H706		PLATE, MOUNTING, CAPACITOR: Spec No. JAN-C-25, Type No. CP07SC4	Mounts C701
I701		LAMP, INCANDESCENT: Bendix Part No. A104685	On-off indicator
J701		CONNECTOR, RECEPTACLE: JAN No. AN 3102A-28-21P	Disconnect for P701 on cabinet

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
J702		JACK, TELEPHONE: Bendix Part No. C223203-1	Audio output jack
J703		SOCKET, ELECTRON TUBE: Bendix Part No. 0A113017-8	Voltage test socket
K701		RELAY, ARMATURE: Bendix Part No. C218377-1	Remote a-c line control
K702		RELAY, ARMATURE: Bendix Part No. C218377-2	Antenna motor relay
K703		SAME AS K702	Antenna sense relay
L701		REACTOR: Bendix Part No. L284318-1	B+ filter plate V704
L702		REACTOR: Bendix Part No. L284064-1	Bridge filter for CR701
0701		COVER, ELECTRICAL SWITCH: Bendix Part No. C230744-1	Cover for S701
0702	2	GASKET: Bendix Part No. L237409-2	Seal for front panel
P702		CONNECTOR, PLUG: JAN Type No. AN 3106A-28-21S	Power supply disconnect
R701		RESISTOR, FIXED, COMPOSITION: Spec. No. JAN-R-11, Type No. RC20GF184K	Filter plate V703
R702		RESISTOR, FIXED, COMPOSITION: Spec. No. JAN-R-11, Type No. RC20GF474K	Plate load V703
R703		RESISTOR, FIXED, COMPOSITION: Spec. No. JAN-R-11, Type No. RC20GF124K	Screen dropping V703
R704		RESISTOR, FIXED, WIRE WOUND: Spec. No. JAN-R-22, Type No. RW22G502	Voltage limiter plate V702
R705		RESISTOR, FIXED, COMPOSITION: Spec. No. JAN-R-11, Type No. RC42GF270K	Cathode bias V704
R706		SAME AS R705	Cathode bias V704
R707		RESISTOR, FIXED, COMPOSITION: Spec. No. JAN-R-11, Type No. RC20GF224K	Grid isolation V703
R708		RESISTOR, FIXED, COMPOSITION: Spec. No. JAN-R-11, Type No. RC30GF683K	Voltage divider cathode V704
R709		RESISTOR, VARIABLE: Bendix Part No. L219625-51	Voltage adjust grid V703
R710		SAME AS R708	Voltage divider B- line

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R711		RESISTOR, FIXED, COMPOSITION: Bendix Part No.BRN10AB5003F	Voltage dropping for J703
S701		SWITCH, TOGGLE: Spec No. JAN S-23, Type No. ST52P	Local-remote power switch
S702		SWITCH, SENSITIVE: Bendix Part No. C218637-1	A-c power, part of K701
S703		SAME AS S702	A-c power, part of K701
S704		SAME AS S702	Antenna power, part of K702
S705		SAME AS S702	Antenna power, part of K702
S706		SAME AS S702	Antenna sense, part of K703
S707		SAME AS S702	Antenna sense, part of K703
T701		TRANSFORMER, POWER, STEP-DOWN AND STEP-UP: Bendix Part No. N284319-1	B+ rectifier supply
T702		TRANSFORMER, POWER, STEP-DOWN: Bendix Part No. N284320-1	Tube heater supply
T703		TRANSFORMER, POWER, STEP-DOWN: Bendix Part No. L284063-1	Low voltage d-c supply
V701		ELECTRON TUBE: Spec. No. MIL-E-1B, Type No. MIL-5R4WGY	B supply rectifier
V702		ELECTRON TUBE: Spec. No. MIL-E-1B, Type No. MIL-OC3/VR105	105V supply regulated
V703		ELECTRON TUBE: Spec. No. MIL-E-1B, Type No. MIL-6AS6	Regulator amplifier
V704		ELECTRON TUBE: Spec. No. MIL-E-1B, Type No. MIL-6AS7G	200V regulator
CR701		RECTIFIER, METALLIC: Bendix Part No. L222921-1	Low voltage rectifier
TB701		TERMINAL BOARD: Bendix Part No. C60854-3	Terminals for T703
TB702	2	TERMINAL BOARD: Bendix Part No. L281497-1	Component mounting
XF701		FUSE HOLDER: Bendix Part No. A30003	For F701

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
XF702		SAME AS XF701	For F702
XF703		SAME AS XF701	For F703
XF704		SAME AS XF701	For F704
XF705		SAME AS XF701	For F705
XF706		SAME AS XF701	For F706
XI701	1	LIGHT, INDICATOR: Bendix Part No. C62465-21	For I701 component of XI701a XI701b
XI701a		LENS, INDICATOR LIGHT: Bendix Part No. C237982-1	Lens for XI701
XI701b		BODY LIGHT, INDICATOR: Bendix Part No. C287236-1	Body for XI701
XV701		SOCKET, ELECTRON TUBE: Spec. No. JAN-S-28A, Type No. TS101P01	For V701
XV702		SAME AS XV701	For V702
XV703		SOCKET, ELECTRON TUBE: Spec. No. JAN-S-28A, Type No. TS102C01	For V703
XV704		SAME AS XV701	For V704
801 thru 899		CABINET: AN CABINET CY-890/URD-4; Bendix Part No. OR650036-1	
B801		FAN: Bendix Part No. L222908-3	Ventilates R-353/URD-4
B802		SAME AS B801	Ventilates PP-556/URD-4
C801		CAPACITOR, FIXED, PAPER DIELECTRIC: Spec. No. JAN-C-25, Type No. CP54B1DF105V	Motor capacitor for B801
C802		SAME AS C801	Motor capacitor for B802
C803		SAME AS C801	Sense relay bypass
C804		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220077-1	A-c line filter
C805		SAME AS C804	A-c line filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E801		TERMINAL BOARD: Bendix Part No. A100595-20	Connecting strip
E802		SAME AS E801	Connecting strip
E803		SAME AS E801	Connecting strip
H801	3	SLIDE, DRAWER: Bendix Part No. L280029-1	RH slide for PP-556/URD-4
H802	3	SLIDE, DRAWER: Bendix Part No. L280030-1	LH slide for PP-556/URD-4
H803	3	SLIDE, DRAWER: Bendix Part No. L280031-1	LH slide for R-353/URD-4
H804	3	SLIDE, DRAWER: Bendix Part No. L280032-1	RH slide for R-353/URD-4
J801A,B		CONNECTOR, ADAPTER: Spec. No. RE49F388, Type No. UG-271/U	Adapter for r-f antenna line
L801	2	COIL, RADIO FREQUENCY: Bendix Part No. 0C215350-37	A-c line filter
L802		SAME AS L801	A-c line filter
0801		CLEANER ELEMENT, AIR: Bendix Part No. C237910-1	Air filter on back of CY-890/URD-4
0802		SAME AS 0801	Air filter on back of CY-890/URD-4
0803		FILTER, AIR CONDITIONING: Bendix Part No. C233813-5	Air filter on side of CY-890/URD-4
0804		MOUNT, VIBRATION: Bendix Part No. C240591-3	Mounts CY-890/URD-4
0805		SAME AS 0804	Mounts CY-890/URD-4
0806		SAME AS 0804	Mounts CY-890/URD-4
0807		SAME AS 0804	Mounts CY-890/URD-4
0808		SAME AS 0804	Mounts CY-890/URD-4
0809		SAME AS 0804	Mounts CY-890/URD-4

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
O810		GASKET: Bendix Part No. C235324-8	Used with J801A,B
P801A		CONNECTOR, PLUG: Spec. No. MIL-C-3650, Type No. UG-154/U	Antenna signal
P801B		CONNECTOR, PLUG: Spec. No. RE49F569, Type No. UG-536/U	Antenna signal
S801		SWITCH, PUSH-PULL: Bendix Part No. C218282-1	Interlock for R-353/URD-4
S802		SAME AS S801	Interlock for PP-556/URD-4
S803		SWITCH, THERMOSTATIC: Bendix Part No. C218455-1	Blower thermostat
TB801	1	TERMINAL BOARD ASSEMBLY: Bendix Part No. L280070-1	C/o mounting board, E801, E802, and E803
TB802	3	TERMINAL BOARD: Bendix Part No. C281248-1	Connecting strip for a-c line
901 thru 1099	6	INDICATOR, AZIMUTH IP-93/URD-4: Bendix Part No. OR650037-1	
C901		CAPACITOR, FIXED, MICA: Bendix Part No. C65524-152	Plate coupling V901
C902		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP69B5EF104V	A - Plate bypass V901 B - Not used-spare C - Screen bypass V908
C903		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN20A602M	Coupling plate V901
C904		CAPACITOR, FIXED, MICA: Bendix Part No. C65524-102	Feedback coupling V903
C905		CAPACITOR, AIR DIELECTRIC: Bendix Part No. C219079-1	Trimmer for L901
C906		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220129-63	Padder for L901
C907		SAME AS C902	A - Plate bypass V903 B - Plate bypass V903 C - Cathode bypass V903

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C908		SAME AS C904	Grid coupling V904
C909		SAME AS C904	Cathode bypass V904
C910		SAME AS C902	A - Screen bypass V904 B - Plate bypass V904 C - Plate bypass V905
C911		SAME AS C906	Padder L902
C912		SAME AS C905	Trimmer L902
C913		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C65524-471	Grid coupling V905
C914		SAME AS C913	Grid coupling V905
C915		SAME AS C901	Grid bypass V906
C916		SAME AS C901	Grid bypass V907
C917		SAME AS C901	Grid bypass V908
C918		SAME AS C901	Grid bypass V909
C919		CAPACITOR, FIXED, CERAMIC DIELECTRIC: JAN Type No. CC21SL470J	Suppressor grid coupling V906
C920		SAME AS C919	Suppressor grid coupling V907
C921		SAME AS C919	Suppressor grid coupling V908
C922		SAME AS C919	Suppressor grid coupling V909
C923		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C65524-680	Parasitic suppressor
C924		SAME AS C923	Parasitic suppressor
C925		SAME AS C923	Parasitic suppressor
C926		SAME AS C923	Parasitic suppressor

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C927		SAME AS C902	A - Cathode by-pass B - Cathode bypass C - Plate bypass V906
C928		SAME AS C902	A - Cathode by-pass V908 B - Cathode by-pass V909 C - Plate bypass V908
C929		SAME AS C923	Parasitic suppressor V906
C930		SAME AS C923	Parasitic suppressor V907
C931		SAME AS C923	Parasitic suppressor V908
C932		SAME AS C923	Parasitic suppressor V909
C933		SAME AS C906	Padder L903
C934		SAME AS C905	Trimmer L903
C935		SAME AS C906	Padder L904
C936		SAME AS C905	Trimmer for L904
C937		SAME AS C906	Padder for L905
C938		SAME AS C905	Trimmer for L905
C939		SAME AS C906	Padder for L906
C940		SAME AS C905	Trimmer for L906
C941		SAME AS C919	Plate coupler V910
C942		SAME AS C919	Plate coupler V910
C943		SAME AS C919	Plate coupler V911
C944		SAME AS C919	Plate coupler V911

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C945		SAME AS C919	Load bypass V910
C946		SAME AS C919	Cathode bypass V910
C947		SAME AS C919	Load bypass V910
C948		SAME AS C919	Load bypass V911
C949		SAME AS C919	Cathode bypass V911
C950		SAME AS C919	Load bypass V911
C951		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220077-2	Plate bypass V914
C952		SAME AS C951	Plate bypass V914
C953		SAME AS C951	Plate bypass V915
C954		SAME AS C951	Plate bypass V915
C955		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP53B1EB105K	Horizontal phase shift
C956		SAME AS C955	Vertical phase shift
C957		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP41B1DF405V	B+ filter
C958		SAME AS C957	B+ filter
C959		SAME AS C957	Negative supply filter
C960		SAME AS C957	Negative supply filter
C961		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CN43E104M	Negative supply bypass
C962		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP69B5EG203V	A-Plate filter V923 B-Plate filter V923 C-Regulator filter V924
C963		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP61B1EF104V	Grid coupler V923
C964		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220194-2	Heater r-f filter
C965		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM35B562K	Tuning L908

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
C966		SAME AS C964	Heater r-f filter
C967		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220194-1	Heater r-f filter
C968		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM20B391K	Tuning L909
C969		SAME AS C967	Heater r-f filter
C970		CAPACITOR, FIXED, MICA DIELECTRIC: Bendix Part No. C220133-47	Grid bypass V925
C971		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM56C751G	Plate tuning V925
C972		CAPACITOR, FIXED, MICA DIELECTRIC: JAN Type No. CM35B562K	Plate tuning V925
C973		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP54B4EF254X	A-Screen bypass V925 B-Plate bypass V925
C974		CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix Part No. C220005	A-HV supply filter V927 B-HV supply filter V916
C975		SAME AS C974	A-Negative HV supply filter V926 B-Negative HV supply filter V926
C976		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220077-1	HV meter bypass
C977		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP53B1EG104X	Focus bypass V916
C978		CAPACITOR, FIXED, PAPER DIELECTRIC: JAN Type No. CP53B1EE504X	Grid bypass V916
E901		NOT USED	
E902		TERMINAL, STUD: Bendix Part No. C243900-4	Terminal
E903		TERMINAL, STUD: Bendix Part No. C243901-2	Tie point
E904 thru E911		NOT USED	
E912	3	TERMINAL, STUD: Bendix Part No. C243872-1	Terminal

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E913 thru E919		NOT USED	
E920		INSULATOR: JAN Type No. NS4W0104	For mounting TB903
E921		SAME AS E920	For mounting TB903
E922		SAME AS E920	For mounting TB903
E923		SAME AS E920	For mounting TB903
E924		SAME AS E920	For E926
E925		SAME AS E920	For E926
E926		INSULATOR: JAN Type No. NS3W0220	Standoff
E927		SHIELD, ELECTRON TUBE: JAN Type No. TS102U01	For V903
E928		SAME AS E927	For V904
E929		SAME AS E927	For V906
E930		SAME AS E927	For V907
E931		SAME AS E927	For V908
E932		SAME AS E927	For V909
E933		SAME AS E927	For V923
E934		SAME AS E927	For V910
E935		SAME AS E927	For V911
E936		SHIELD, ELECTRON TUBE: JAN Type No. TS102U02	For V924
E937		SHIELD, ELECTRON TUBE: JAN Type No. TS102U03	For V918
E938		SAME AS E937	For V919
E939		SAME AS E937	For V921
E940		SHIELD, ELECTRON TUBE: JAN Type No. TS103U01	For V901
E941		SAME AS E940	For V902
E942		SAME AS E940	For V905
E943		SAME AS E940	For V912
E944		SAME AS E940	For V913
E945		SAME AS E940	For V914

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E946		SAME AS E940	For V915
E947		LEAD, ELECTRICAL: Bendix Part No. C208324-1	Plate V926
E948		LEAD, ELECTRICAL: Bendix Part No. C208324-2	Plate V927
E949		CLIP, TUBE: Bendix Part No. A242240	Anode clip V916
E950		INSULATOR: Bendix Part No. C293172-2	
E951		KNOB: Bendix Part No. A245195-1	For R920
E952		SAME AS E951	For brilliance control
E953		SAME AS E951	For focus control
E954		SAME AS E951	For R944
E955		SAME AS E951	For R945
E956		KNOB: Bendix Part No. N245412-3	For S910
E957		KNOB: Bendix Part No. N245412-5	For R1059
E958		SAME AS E957	For R1040
E959		DIAL ASSEMBLY: Bendix Part No. C207583-1	Channel selector dial
E963		CAP, LAMP ASSY: Bendix Part No. C208175-1	For I907
E964		SAME AS E963	For I908
E965		SAME AS E963	For I909
E966		SHIELD, ELECTRON TUBE: Bendix Part No. C293133-2	For V926
E967		SAME AS E966	For V927
E968		TERMINAL, STUD: Bendix Part No. C243766-1	Tie point
E969		SAME AS E968	Tie point
F901		FUSE, CARTRIDGE: Bendix Part No. C221603-6202	Power input
F902		SAME AS F901	Power input
H901		HOLDER TUBE: Bendix Part No. L74947-1	For V921
H902		HOLDER, TUBE: Bendix Part No. L74947-3	For V922
H903		SAME AS H902	For V925
H904		SAME AS H902	For V917

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
H905	2	SCREW, CAPTIVE: Bendix Part No. C241919-1	For holding shield to chassis
H906		WRENCH, TUNING: Bendix Part No. C245997-1	For transformer adjustment
H907	2	SCREW,CAPTIVE: Bendix Part No. C241489-1	For holding panel to cabinet
H908		BRACKET: JAN type No. CP07SA2	For C974
H909		SAME AS H908	For C975
H910		SAME AS H908	For C975
H911		SAME AS H908	For C974
H916	2	CUSHION, ELECTRON TUBE: Bendix Part No. A234721	Cushion for V916
H917		SAME AS H916	Cushion for V916
H918		SCREW, CAPTIVE: Bendix Part No. A241032	
H919		SCREW, ADJUSTMENT: Bendix Part No. A295150	For N901
H921		FASTENER, SPRING LOCK: Bendix Part No. OA233481-1	
H928		CLAMP, ELECTRICAL: JAN type No. CP06SA2	For C963
I901		LAMP, INCANDESCENT: JAN Type No. AN3140-328	Preset channel indicator
I902		SAME AS I901	Manual channel indicator
I903		SAME AS I901	Preset manual indicator
I904		LAMP, INCANDESCENT: Bendix Part No. C221312-4	Operation indicator
I905		SAME AS I904	Hunting indicator
I906		SAME AS I904	Lock-up indicator
I907		SAME AS I901	Alidade illumination
I908		SAME AS I901	Alidade illumination
I909		SAME AS I901	Alidade illumination

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
I910		SAME AS I901	Manual channel indicator
J901		CONNECTOR, RECEPTACLE: JAN Type No. AN3102A-28-21P	Chassis connector
J902		CONNECTOR, RECEPTACLE: Bendix Part No. L287186-1	Channel selector connector
J903		CONNECTOR, RECEPTACLE: Bendix Part No. A100703	Alidade light connector
J904		CONNECTOR, RECEPTACLE: Bendix Part No. C223203-1	Headphone jack
J905		CONNECTOR, RECEPTACLE: Bendix Part No. 0A113017-8	Test receptacle
L901		COIL, RADIO FREQUENCY: Bendix Part No. L284025-2	Oscillator tank V903
L902		SAME AS L901	Plate V904
L903		SAME AS L901	Plate V906
L904		SAME AS L901	Plate V907
L905		SAME AS L901	Plate V908
L906		SAME AS L901	Plate V909
L907		REACTOR: Bendix Part No. L284331-1	Filter choke V917
L908		COIL, RADIO FREQUENCY: Bendix Part No. L284059-1	Filter heater V925
L909		COIL, RADIO FREQUENCY: Bendix Part No. C215351-2	Filter plate V925
L910		COIL, RADIO FREQUENCY: Bendix Part No. C215350-20	Filter heater V925
L911		COIL, RADIO FREQUENCY: Bendix Part No. C284040-1	Filter plate V925
N901	1	CURSOR, INDICATOR: Bendix Part No. N208182-2	Housing and azimuth scale for tube
N902		DIAL: Bendix Part No. L247227-1	
N903		POINTER: Bendix Part No. L247228-1	
N904		DIAL, CONTROL: Bendix Part No. C281120-1	For S905

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
N905		SAME AS N904	For S906
N906		SAME AS N904	For S907
N907		DIAL, CONTROL: Bendix Part No. C281120-2	For S908
N908		DIAL, CONTROL: Bendix Part No. C281119-1	For S909
0901		COUPLING: Bendix Part No. C239555-6	For R1066
0902		SAME AS 0901	For R1069
0903		BOOT: Bendix Part No. C690203-1	For S902
0904		SPRING: Bendix Part No. 0C239080-2	Spring for 0906
0905		NOT USED	
0906	2	SHAFT: Bendix Part No. A238756-1	Extension shaft for controls
0907	2	SHAFT: Bendix Part No. A239031	For brilliance and focus control
0908		BOOT W/NUT: Bendix Part No. C230744-2	Variable resistor cover
0915		BOOT W/NUT: Bendix Part No. C230744-1	Switch cover
0918	2	SPRING, COMPRESSION: Bendix Part No. 0C239080-54	Lock spring for indicator subassembly
0919		SPRING: Bendix Part No. C249536	For preset mechanism
0920		SPRING: Bendix Part No. C249537	For preset mechanism
0922		BEARING, BALL: Bendix Part No. C240186-3	For memory cylinder shaft
0923		SAME AS 0922	For memory cylinder shaft
P901		CONNECTOR, PLUG: JAN Type AN3108B-28-21S	Main disconnect
P902		CONNECTOR, PLUG: Bendix Part No. L287185-1	Channel selector plug
P903		CONNECTOR, PLUG: Bendix Part No. A11705-3	Alidade lights
R901		RESISTOR, VARIABLE: Bendix Part No. L219625-46	Calibration gain V901

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R902		RESISTOR, VARIABLE: Bendix Part No. L219625-47	Phasing control V901
R903		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF122K	Plate decoupling V901
R904		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF103K	Plate dropping V901
R905		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF272K	Cathode V901
R906		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF393J	Bias divider
R907		SAME AS R905	Plate coupler V901
R908		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF392K	Cathode V901
R909		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF223K	Bias V901
R910		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF392J	Grid dropping V902
R911		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF104J	Grid bias V902
R912		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB2203F	Cathode V902
R913		SAME AS R912	Cathode V902
R914		RESISTOR, VARIABLE: Bendix Part No. L219625-9	Cathode coupler V902
R915		SAME AS R911	Grid bias V902
R916		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB3302F	Plate coupler V902
R917		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB5603F	Bias divider V902
R918		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB1104F	Bias divider
R919		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF152K	Cathode coupler V902
R920		RESISTOR, VARIABLE: Bendix Part No. L219625-48	Circle diameter control

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R921		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF564K	Oscillator grid V903
R922		SAME AS R909	Oscillator grid V903
R923		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF182K	Cathode bias V903
R924		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF473K	Plate dampner V903
R925		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20BF122K	Plate decoupling V903
R926		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF275K	Grid bias V904
R927		SAME AS R911	Suppressor grid V904
R928		SAME AS R905	Cathode bias V904
R929		SAME AS R924	Plate dampner V904
R930		SAME AS R911	Grid bias V905
R931		SAME AS R903	Plate decoupling V905
R932		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF472K	Plate coupling V905
R933		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF222K	Cathode bias V905
R934		NOT USED	
R935		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF102J	Cathode V905
R936		SAME AS R911	Grid bias V905
R937		SAME AS R904	Grid filter V906
R938		SAME AS R904	Grid filter V907
R939		SAME AS R904	Grid filter V908
R940		SAME AS R904	Grid filter V909
R941		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF335J	Bias divider V906

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R942		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF473J	Suppressor grid V906
R943		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF821K	Cathode bias V906
R944		RESISTOR, VARIABLE: Bendix Part No. L219625-50	Horizontal modulator control V906,V907
R945		SAME AS R943	Cathode bias V907
R946		SAME AS R942	Suppressor grid V907
R947		SAME AS R941	Bias divider V907
R948		SAME AS R941	Bias divider V908
R949		SAME AS R942	Suppressor grid V908
R950		SAME AS R943	Cathode bias V908
R951		SAME AS R944	Vertical modulator control
R952		SAME AS R943	Cathode bias V909
R953		SAME AS R942	Suppressor grid V909
R954		SAME AS R941	Bias divider V909
R955		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF823J	Plate dampner V906
R956		SAME AS R955	Plate dampner V907
R957		SAME AS R955	Plate dampner V908
R958		SAME AS R955	Plate dampner V909
R959		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB5003F	Diode filter V910
R960		SAME AS R959	Diode filter V910
R961		SAME AS R959	Diode filter V911
R962		SAME AS R959	Diode filter V911

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R963		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB1004F	Diode load V910
R964		SAME AS R963	Diode load V910
R965		SAME AS R963	Diode load V911
R966		SAME AS R963	Diode load V911
R967		SAME AS R912	Bias divider V912
R968		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB1803F	Bias divider V912
R969		SAME AS R968	Bias divider V913
R970		SAME AS R912	Bias divider V913
R971		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF475J	Grid bias V912
R972		SAME AS R971	Grid bias V912
R973		SAME AS R971	Grid bias V913
R974		SAME AS R971	Grid bias V913
R975		SAME AS R912	Cathode bias V912
R976		RESISTOR, FIXED, COMPOSITION: Bendix Type No. BRN10AB1802F	Beedback V912
R977		SAME AS R912	Cathode bias V912
R978		SAME AS R912	Cathode bias V913
R979		SAME AS R976	Feedback V913
R980		SAME AS R912	Cathode bias V913
R981		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF154K	Plate load V912
R982		SAME AS R901	Horizontal centering control
R983		SAME AS R981	Plate load V912
R984		SAME AS R981	Plate load V913
R985		SAME AS R901	Vertical centering control
R986		SAME AS R981	Plate load V913
R987		SAME AS R963	Grid coupling V914

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R988		SAME AS R963	Grid coupling V914
R989		SAME AS R963	Grid coupling V915
R990		SAME AS R963	Grid coupling V915
R991		SAME AS R963	Grid bias V914
R992		SAME AS R963	Grid bias V914
R993		SAME AS R963	Grid bias V915
R994		SAME AS R963	Grid bias V915
R995		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB8202F	Cathode bias V914
R996		RESISTOR, FIXED, COMPOSITION: Bendix Part No. BRN10AB8201F	Feedback V914
R997		SAME AS R995	Cathode bias V914
R998		SAME AS R995	Cathode bias V915
R999		SAME AS R996	Feedback V915
R1000		SAME AS R995	Cathode bias V915
R1001		RESISTOR, FIXED, COMPOSITION: Bendix Part BRN10AB1503F	Plate load V914
R1002		SAME AS R1001	Plate load V914
R1003		SAME AS R1001	Plate load V915
R1004		SAME AS R1001	Plate load V915
R1005		RESISTOR, FIXED, WIREWOUND: Bendix Part No. C220545-1	Channel selector
R1006		SAME AS R1005	Channel selector
R1007		SAME AS R1005	Channel selector
R1008		RESISTOR VARIABLE: Bendix Part No. L219625-49	Horizontal gain control

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R1009		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF271J	Vertical phase shift
R1010		SAME AS R1009	Vertical phase shift
R1011		SAME AS R1009	Vertical balance
R1012		SAME AS R1009	Vertical balance
R1013		RESISTOR, VARIABLE: Bendix Part No. L219625-8	Alternator phase rotator
R1014		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF183J	Vertical input limiting
R1015		SAME AS R1014	Vertical input limiting
R1016		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF684J	Vertical divider
R1017		SAME AS R1016	Voltage divider
R1018		SAME AS R1008	Vertical gain control
R1019		SAME AS R1009	Horizontal phase shift
R1020		SAME AS R1009	Horizontal phase shift
R1021		SAME AS R1009	Horizontal balance
R1022		SAME AS R1009	Horizontal balance
R1023		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF822K	Alternator phase shift
R1024		SAME AS R1014	Horizontal input limiting
R1025		SAME AS R1014	Horizontal input limiting
R1026		SAME AS R1016	Voltage divider
R1027		SAME AS R1016	Voltage divider
R1028		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF471K	Series I904
R1029		SAME AS R1009	Series I904

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R1030		SAME AS R1009	Series I904
R1031		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF181K	Series I904
R1032		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF331K	Series I905
R1033		SAME AS R1009	Series I905
R1034		SAME AS R1009	Series I905
R1035		SAME AS R1031	Series I905
R1036		RESISTOR, FIXED, WIREWOUND: Bendix Part No. L220590-4	Series I907
R1037		SAME AS R1036	Series I907
R1038		RESISTOR, FIXED, WIREWOUND: Bendix Part No. L220590-3	Series I907
R1039		SAME AS R1038	Series I907
R1040		RESISTOR, VARIABLE: Bendix Part No. L219627-2	A-f gain
R1041		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC42GF273J	Negative supply filter V918
R1042		SAME AS R1041	Negative supply filter V918
R1043		SAME AS R1041	Negative supply filter V918
R1044		SAME AS R1041	Negative supply filter V918
R1045		NOT USED	
R1046		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF270K	Cathode V922
R1047		SAME AS R1046	Cathode V922
R1048		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF823K	Screen divider V923
R1049		SAME AS R1048	Screen divider V923
R1050		RESISTOR,FIXED, WIREWOUND: JAN Type No. RW21G252	Plate dropping V921

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R1051		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF184K	Filter plate V922
R1052		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF474K	Plate V923
R1053		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF274K	Grid V923
R1054		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC42GF184J	Voltage divider
R1055		RESISTOR, VARIABLE: Bendix Part No. L219625-51	Regulator voltage adjust
R1056		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF823J	Voltage divider
R1057		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF563K	Plate supply dropping V924
R1058		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF124J	R-f gain dropping
R1059		RESISTOR, VARIABLE: Bendix Part No. L219627-1	R-f gain control
R1060		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF683J	R-f gain shunt
R1061		RESISTOR, VARIABLE: Bendix Part No. L219625-52	Astigmatic corrector
R1062		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF334J	HV divider V916
R1063		SAME AS R1062	HV divider V916
R1064		SAME AS R1062	HV divider V916
R1065		SAME AS R1062	HV divider V916
R1066		RESISTOR, VARIABLE: Bendix Part No. L219625-4	Focus control
R1067		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF394J	HV divider V916
R1068		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF472K	Brilliance limiting V916
R1069		SAME AS R901	Brilliance control
R1070		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF124K	Grid leak V925

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R1071		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF473K	Screen dropping V925
R1072		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF393K	Negative supply filter V926
R1073		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF124K	Negative supply filter V926
R1074		SAME AS R1072	Positive supply filter V927
R1075		SAME AS R1073	Positive supply filter V927
R1076		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF684J	HV divider
R1077		SAME AS R1076	HV divider
R1078		SAME AS R1076	HV divider
R1079		SAME AS R1062	HV divider
R1080		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC30GF395J	HV test meter multiplier
R1081		SAME AS R1080	HV test meter multiplier
R1082 thru R1085		NOT USED	
R1086		SAME AS R944	Horizontal distortion
R1087		SAME AS R944	Vertical distortio control
R1089		RESISTOR, FIXED: JAN Type No. RC20GF330K	
R1090		RESISTOR, FIXED, COMPOSITION: JAN Type No. RC20GF224J	Grid bias V904
S901		SWITCH, SENSITIVE: Bendix Part No. C218305-1	Calibration phase selector A thru G
S902		SWITCH, LEVER, PILE-UP: Bendix Part No. C206555-1	Sense calibrate

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
S903		SWITCH, SENSITIVE: Bendix Part No. A119536-7	Reset and circle diameter reference
S904		SWITCH ASSEMBLY: Bendix Part No. L281548-1	Channel selector
S904A		CONTACT ASSEMBLY: Bendix Part No. L293223	For S904
S904B		CONTACT ASSEMBLY: Bendix Part No. L293222	For S904
S904C		CONTACT ASSEMBLY: Bendix Part No. L293221	For S904
S904D		CONTACT ASSEMBLY: Bendix Part No. L293220	For S904
S904E		SHAFT: Bendix Part No. L238794-1	Mounting for S904A,B,C,D
S905		SWITCH ROTARY: Bendix Part No. L218500-9	Channel marker selector
S906		SWITCH, ROTARY: Bendix Part No. L218500-7	Channel marker selector
S907		SAME AS S906	Channel marker selector
S908		SAME AS S906	Channel marker selector
S909A,B		SWITCH, ROTARY: Bendix Part No. L218500-8	Preset-manual selector
S910		SWITCH, ROTARY: Bendix Part No. C218500-10	A-light intensity B-light intensity C-light intensity D-not used
S911		SWITCH, TOGGLE: JAN Type No. ST42A	Power
S912		SAME AS S911	Squelch "on-off"
S913		SAME AS S911	Antenna motor
T901		TRANSFORMER: Bendix Part No. C284058-1	Calibration input
T902		TRANSFORMER, POWER, STEP-DOWN AND STEP-UP: Bendix Part No. L284057-1	Power
T903		TRANSFORMER, RADIO FREQUENCY: Bendix Part No. L284056-1	HV oscillator
V901		ELECTRON TUBE: JAN Type No. 5670	Calibration phase splitter
V902		SAME AS V901	Video differential amplifier

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
V903		ELECTRON TUBE: JAN Type No. 6AS6	Carrier oscillator
V904		SAME AS V903	1st modulator
V905		SAME AS V901	Modulator amplifier and follower
V906		SAME AS V903	Horizontal modulator
V907		SAME AS V903	Horizontal modulator
V908		SAME AS V903	Vertical modulator
V909		SAME AS V903	Vertical modulator
V910		ELECTRON TUBE: JAN Type No. 5726/6AL5W	Horizontal rectifier
V911		SAME AS V910	Vertical rectifier
V912		SAME AS V901	Horizontal amplifier
V913		SAME AS V901	Vertical amplifier
V914		SAME AS V901	Horizontal amplifier
V915		SAME AS V901	Vertical amplifier
V916		ELECTRON TUBE: JAN Type No. 5CP12	CR indicator
V917		ELECTRON TUBE: JAN Type No. 5R4WGY	Plate supply rectifier
V918		ELECTRON TUBE: JAN Type No. 6X4W	Bias supply rectifier
V919		ELECTRON TUBE: JAN Type No. OA2	Voltage regulator
V920		ELECTRON TUBE: JAN Type No. OA3/VR75	Voltage regulator
V921		SAME AS V919	Voltage regulator
V922		ELECTRON TUBE: JAN Type No. 6AS7G	Voltage regulator
V923		SAME AS V903	Regulator amplifier
V924		ELECTRON TUBE: JAN Type No. 5651	Voltage regulator
V925		ELECTRON TUBE: JAN Type No. 6L6GA	HV oscillator
V926		ELECTRON TUBE: JAN Type No. 1Z2	HV rectifier
V927		SAME AS V926	HV rectifier

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
TB901	2	TERMINAL BOARD: Bendix Part No. L281706-3	Component mounting
TB902	2	TERMINAL BOARD: Bendix Part No. L281706-1	Component mounting
TB903	2	TERMINAL BOARD: Bendix Part No. L281701-1	Component mounting
TB904	2	TERMINAL BOARD: Bendix Part No. C281702-1	Component mounting
TB905	2	TERMINAL BOARD: Bendix Part No. C281705-1	Component mounting
TB906		NOT USED	
TB907		NOT USED	
TB908	2	TERMINAL BOARD: Bendix Part No. L281703-1	Component mounting
TB909	2	TERMINAL BOARD: Bendix Part No. C281700-1	Component mounting
TB910	2	TERMINAL BOARD: Bendix Part No. C281704-1	Component mounting
TB911	2	TERMINAL BOARD: Bendix Part No. C281698-1	Component mounting
XF901		FUSEHOLDER: Bendix Part No. A32049	For F901
XF902		SAME AS XF901	For F902
XI901		LIGHT, PANEL: Bendix Part No. L222911-3	For I901
XI902		SAME AS XI901	For I902
XI903		SAME AS XI901	For I903
XI904		LAMPHOLDER: Bendix Part No. C208319-3	For I904
XI904A	4	LENS, LAMPHOLDER: Bendix Part No. C206119-3	Part of XI904
XI904B	4	LAMPHOLDER, Bendix Part No. C206118-1	Part of XI904
XI905		LAMPHOLDER: Bendix Part No. C208319-2	For I905
XI905A	4	LENS, LAMPHOLDER: Bendix Part No. C206119-2	Part of XI905
XI905B		SAME AS XI904B	Part of XI905
XI906		LAMPHOLDER: Bendix Part No. C208319-1	For I906
XI906A	4	LENS, LAMPHOLDER: Bendix Part No. C206119-1	Part of XI906
XI906B		SAME AS XI904B	Part of XI906
XI907		LAMPHOLDER: Bendix Part No. C208174-2	For I907
XI908		SAME AS XI907	For I908
XI909		SAME AS XI907	For I909
XI910		SAME AS XI901	For I910

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
XV901		SOCKET, ELECTRON TUBE: JAN Type No. TS103C01	For V901
XV902		SAME AS VX901	For V902
XV903		SOCKET, ELECTRON TUBE: JAN Type No. TS102C01	For V903
XV904		SAME AS XV903	For V904
XV905		SAME AS XV901	For V905
XV906		SAME AS XV903	For V906
XV907		SAME AS XV903	For V907
XV908		SAME AS XV903	For V908
XV909		SAME AS XV903	For V909
XV910		SAME AS XV903	For V910
XV911		SAME AS XV903	For V911
XV912		SAME AS VX901	For V912
XV913		SAME AS XV901	For V913
XV914		SAME AS XV901	For V914
XV915		SAME AS XV901	For V915
XV916		SOCKET, ELECTRON TUBE: Bendix Part No. C65510	For V916
XV917		SOCKET, ELECTRON TUBE: JAN Type No. TS101P01	For V917
XV918		SAME AS XV903	For V918
XV919		SAME AS XV903	For V919
XV920		SAME AS XV917	For V920
XV921		SAME AS XV903	For V921
XV922		SAME AS XV917	For V922
XV923		SAME AS XV903	For V923
XV924		SAME AS XV903	For V924
XV925		SAME AS XV917	For V925
XV926		SOCKET, ELECTRON TUBE: Bendix Part No.C287051-1	For V926
XV927		SAME AS XV926	For V927

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
1100 thru 1199		CABINET, ELECTRICAL EQUIPMENT: Bendix Part No. OR650031-1	
A1101	2	COVER, PANEL: Bendix Part No. OR288942-1	Protective cover for indicator panel
C1101		CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix Part No. C220077-1	A-c input line filter
C1102		SAME AS C1101	A-c input line filter
E1101		TERMINAL BOARD: Bendix Part No. A100595-20	Inter-connection
E1102		SAME AS E1101	Inter-connection
H1101		SCREW, MACHINE: Bendix Part No. A241457-1	Mounts mounting plate to cabinet
H1102	2	SCREW, CAPTIVE: Bendix Part No. C282050-1	Mounts indicator cover to cabinet
H1103	3	SLIDE, DRAWER: Bendix Part No. L281665-1	L.H. slide for indicator
H1104	3	SLIDE, DRAWER: Bendix Part No. L281666-1	R.H. slide for indicator
H1105		CLAMP, ELECTRICAL: JAN No. AN 3057-16.	
L1101		COIL, RADIO FREQUENCY: Bendix Part No. OC215350-37	A-c input line filter
L1102		SAME AS L1101	A-c input line filter

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
O1101		MOUNT, VIBRATION: Bendix Part No. C240591-3	Mounts CY1304
O1102		SAME AS O1101	Mounts CY1304
O1103		SAME AS O1101	Mounts CY1304
O1104		SAME AS O1101	Mounts CY1304
O1105	2	PACKING, PREFORMED: Bendix Part No. L232807-2	Gasket to seal screw in matching hole
O1106		PACKING, PREFORMED: Bendix Part No. L232807-5	Gasket to seal threaded plug in matching hole
O1107	2	GASKET: Bendix Part No. C236195-1	Seals mounting plate to cabinet
O1108	2	GASKET: Bendix Part No. L232807-4	Seals captive screw in matching hole
O1109	2	GASKET: Bendix Part No. L237409-1	Seal between panel of receiver and cabinet
O1110		GASKET: Bendix Part No. L232807-7	Gasket to seal shockmount screw in matching hole
S1101		SWITCH, PUSH-PULL: Bendix Part No. C218282-1	Interlock switch
TB1101	2	MOUNTING: Bendix Part No. L280718-1	Mounts E1101, E1102 and their cover
TB1102		TERMINAL BOARD: Bendix Part No. C281248-1	Power line input

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
1201-1299		CABLE ASSEMBLIES	
H1201		CLAMP, ELECTRICAL: Spec No. MIL-C-5015, Type No. AN3057-12	For P1209
H1202		SAME AS H1201	For P1210
H1203		ADAPTER, ELECTRICAL CONDUIT: AN Type AN3055-28-12	For P1209
H1204		SAME AS H1203	For P1210
H1205	3	CLAMP, ELECTRICAL: Bendix Part No. C241399-8	For P1207
H1206		SAME AS H1205	For P1208
H1207	3	CLAMP, ELECTRICAL: Bendix Part No. C241399-6	For P1205
H1208		SAME AS H1207	For P1206
H1209		COVER, ELECTRICAL CONNECTOR: Bendix Part No. C205857-4	For P1207
H1210		COVER, ELECTRICAL CONNECTOR: Bendix Part No. C207625-5	For P1208
H1211		COVER, ELECTRICAL CONNECTOR: Bendix Part No. C207625-6	For P1206
H1212		COVER, ELECTRICAL CONNECTOR: Bendix Part No. C205857-3	For P1205
P1201		CONNECTOR, PLUG: Spec No. MIL-C-3608, Type No. UG-88/U	Part of W1209
P1202		CONNECTOR, RECEPTACLE: Spec No. MIL-C-3608 Type No. UG-89/U	Part of W1209
P1203		SAME AS P1201	Part of W1210
P1204		SAME AS P1202	Part of W1210
P1205		CONNECTOR, RECEPTACLE: Bendix Part No. L223212-7	Part of W1206
P1206		CONNECTOR, PLUG: Bendix Part No. L223212-7	Part of W1206
P1207		CONNECTOR, PLUG: Bendix Part No. L223229	Part of W1207
P1208		CONNECTOR, RECEPTACLE: Bendix Part No. L223234	Part of W1207

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
P1209		CONNECTOR, PLUG: Spec No. MIL-C-5015 Type No. AN3101A-28-21P	Part of W1206
P1210		CONNECTOR, PLUG: Spec No. MIL-C-5015 Type No. AN3106A-28-21S	Part of W1206
W1201 thru W1205		NOT USED	
W1206	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: Bendix Part No. L212938-1; AN CABLE ASSEMBLY SPECIAL PURPOSE, ELECTRICAL Type No. CX-2358/U (3' 8")	For testing receiver, power supply or indicator
W1207	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: Bendix Part No. L212781-2; AN CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL Type No. CX-2357/U (3' 11")	For testing monitor and RF head sub-sections of receiver
W1208	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: Bendix Part No. L212780-2; AN CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL Type No. CX-2356/U (3' 10")	For testing IF and audio sub-section of receiver
W1209	1	CABLE ASSEMBLY, RADIO FREQUENCY: Bendix Part No. L212698-22; AN CABLE ASSEMBLY, RADIO FREQUENCY Type No. CG-1068/U (1' 6")	For testing TF unit when removed from receiver
W1210	1	CABLE ASSEMBLY, RADIO FREQUENCY: Bendix Part No. L212698-23; AN CABLE ASSEMBLY, RADIO FREQUENCY Type No. CG-1068/U (3' 0")	For testing receiver when removed from cabinet
1301 - 1399		TEST SET, RADIO: Bendix Part No. L200399-2, AN TEST SET, RADIO Type No. TS-777/URD-4	
C1301		CAPACITOR, FIXED, PAPER DIELECTRIC: Spec No. JAN-C-91, Type No. CN43E104M	Coupling
C1302		SAME AS C1301	Coupling
C1303		CAPACITOR, FIXED, MICA DIELECTRIC; Bendix Part No. OC220125-39	Filter for CR1303
E1301	1	PROD, TEST: Bendix Part No. L280422-1	Voltage analysis probe c/o CR1303, C1303, R1310, R1311, P1301

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
E1302		NOT USED	
E1303		CAP, ELECTRICAL: Bendix Part No. A241800	Seals probe cover to cable
E1304		KNOB: Bendix Part No. C60187-2	Knob for S1301
H1301		FASTENER, SPRING LOCK: Bendix Part No. C241777-4	Holds panel to case
H1302		SAME AS H1301	Holds panel to case
H1303		SAME AS H1301	Holds panel to case
J1301		JACK, TELEPHONE: Bendix Part No. C287076-1	Receptacle for probe
J1302		JACK, TELEPHONE: Bendix Part No. C223203-1	Audio
M1301		AMMETER: Bendix Part No. OC222798-5	Meter
O1301	2	COVER, ELECTRICAL CONNECTOR: Bendix Part No. C203682-1	Probe pin guard
O1302		COVER, TEST PROD: Bendix Part No. A290105	Probe cover
O1303		SHELL, ELECTRICAL CONNECTOR: Bendix Part No. C245441	Connector cover
P1301		PLUG, TELEPHONE: Bendix Part No. A109756	Probe telephone plug
P1302		NOT USED	
P1303		CONNECTOR, PLUG: Bendix Part No. L287065-1	Probe pickup plug
P1304		PROBE SUBASSEMBLY: Bendix Part No. L206854-3	Pickup connector
R1301		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11; Type No. RC20BF273K	Multiplier
R1302		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11; Type No. RC20BF105K	Multiplier
R1303		RESISTOR, FIXED, FILAMENT: Bendix Part No. BRN10AB1504F	Multiplier
R1304		RESISTOR, FIXED, FILAMENT: Bendix Part No. BRN10AB1001F	Shunt

TABLE 8-4. TABLE OF REPLACEABLE PARTS

SYMBOL REF.	NOTE NO.	NAME OF PART AND DESCRIPTION	LOCATING FUNCTION
R1305		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11 Type No. RC20BF103K	Bridge
R1306		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11 Type No. RC20BF121K	Bridge
R1307		SAME AS R1306	Bridge
R1308		SAME AS R1305	Bridge
R1309		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11 Type No. RC20BF154K	Multiplier
R1310		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11 Type No. RC42GF390K	Tube heater substitute
R1311		RESISTOR, FIXED, COMPOSITION: Spec No. JAN-R-11 Type No. RC20BF472K	Diode load
S1301		SWITCH, ROTARY: Bendix Part No. C218385-51	Meter selector includes S1301A and S1301b
S1302		SWITCH, SENSITIVE: Bendix Part No. C218169-1	Bridge balance sensitivity control
W1301		PROD TEST: Bendix Part No. I203677-1	Multiplier
W1301A		CABLE, SPECIAL PURPOSE, ELECTRICAL: Bendix Part No. C222132-1	For use in W1301
CR1301		CRYSTAL UNIT, RECTIFYING: Spec No. JAN-1-A Type No. 1N69	Rectifier
CR1302		SAME AS CR1301	Rectifier
CR1303		SAME AS CR1301	Rectifier for E1301
TB1301	2	TERMINAL BOARD: Bendix Part No. C280405-1	Component mounting board
1401 - 1499		MAST: Bendix Part No. N650004-3, AN MAST AB-198/U; Spec No. MIL-D-16252	
H1401		HARDWARE KIT: Bendix Part No. A248074-1	For mast assembly

TABLE 8-4. TABLE OF REPLACEABLE PARTS

NOTES

Note 1:	"Assembly from components parts."
Note 2:	"Shop manufacture locally."
Note 3:	"Non-supported. If required, will be procured by Naval Supply Activity on demand."
Note 4:	"For reference only."
Note 5:	"Non-failure Item—If required requsition from ESO."
Note 6:	"This unit should not be replaced unless repair is beyond the using activity. If replacement is required, the unit must be turned into the activity from which replacement is received."

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	NAVY SPARE PARTS LIST SP27427	
B101	MOTOR, ALTERNATING CURRENT: Bendix No. N221096-1	1
E101	BRUSH, ELECTRICAL CONTACT: Bendix No. C293378-2	4
E104	CONTACT, ELECTRICAL: Bendix No. C294001-1	12
E105	COIL, REPRODUCER HEAD: Bendix No. C215462-1	1
E112	CAP, ELECTRICAL: Bendix No. A237262-1	1
G101	GENERATOR, ALTERNATING CURRENT: Bendix No. L281504-1	1
K101	ELECTROMAGNETIC ACTUATOR: Bendix No. L280040-1	1
O109	BEARING, BALL: Bendix No. C240211-5	1
O110	BEARING, BALL: Bendix No. C240211-6	1
R101	RESISTOR, FIXED, FILM: Bendix No. L220530-1	2
B201a	MOTOR, DIRECT CURRENT: Bendix No. C221060-1	1
B201b	GEAR: Bendix No. A238164-3	1
C201	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220132-75	1
C203	CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix No. C220157-2	1
C204	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220125-39	3
C212	CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix No. C220097-471	1
C214	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220133-42	1
C215	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220125-55	1
C219	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220293-1	1
C226	CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix No. C220155-2	1
C234	CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix No. C220028-31	1
C251	CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix No. C220281-1	3
C276	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220133-57	1
K201	ELECTROMAGNETIC ACTUATOR: Bendix No. L218582-1	1
K202	ELECTROMAGNETIC ACTUATOR: Bendix No. L215738-1	1
L201	COIL, RADIO FREQUENCY: Bendix No. C215351-2	1

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	NAVY SPARE PARTS LIST SP27427 (Continued)	
K203	ELECTROMAGNETIC ACTUATOR: Bendix No. L218583-1	1
L202	COIL, RADIO FREQUENCY: Bendix No. C215544-9	1
S202	SWITCH, SLIDE, Bendix No. L218461-1	1
S203	SWITCH, ROTARY: Bendix No. C293131-2	1
Z201	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. N203798-9	1
Z202	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. N207922-1	1
Z204	SUPPRESSOR, ELECTRICAL NOISE: Bendix No. C220305-1	1
C307	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220132-45	1
C308	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220132-42	1
C309	CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix No. C220087-1	2
C349	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220133-71	1
C352	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220133-55	1
C356	CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix No. C220101-1	1
C357	CAPACITOR, FIXED, PAPER DIELECTRIC: JAN type CN42E303M	1
T301	TRANSFORMER, AUDIO FREQUENCY: Bendix No. L284339-1	1
Y301	CRYSTAL UNIT, QUARTZ: Bendix No. C221909-18	1
Z302	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. N204300-4	1
Z304	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. N204300-5	1
Z305	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. N204290-3	1
Z306	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. N204321-2	1
Z307	TRANSFORMER, AUDIO FREQUENCY: Bendix No. L284341-1	1
C402	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-63	2
C405	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-61	1
C410	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220132-44	1
C411	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-51	1
C412	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-57	1
C413	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-62	1
C414	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-66	1
C415	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-70	1

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

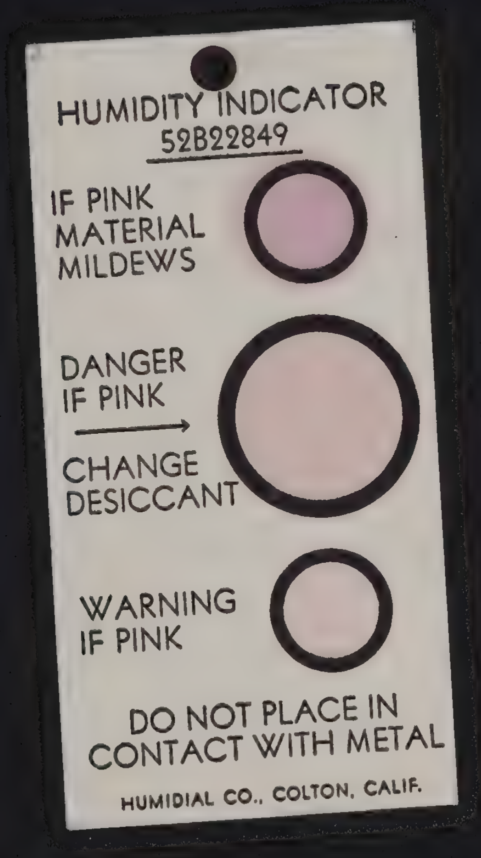
SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	NAVY SPARE PARTS LIST SP27427 (Continued)	
C416	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-74	1
C417	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-39	1
C418	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-77	1
C421	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-58	1
C447	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220125-63	1
C449	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-50	1
C453	CAPACITOR, FIXED, MICA DIELECTRIC: Bendix No. C220129-49	1
C474	CAPACITOR, FIXED, PAPER DIELECTRIC: JAN type CN42E303N	2
K401	CLUTCH, MAGNETIC: Bendix No. N205865-7	1
K403	CLUTCH, MAGNETIC: Bendix No. N205865-8	1
K404	RELAY, ARMATURE: Bendix No. N218269-1	1
L401	COIL, RADIO FREQUENCY: Bendix No. N215544-10	1
L402	COIL, RADIO FREQUENCY: Bendix No. N215544-11	1
L412	COIL, RADIO FREQUENCY: Bendix No. C217337-2	1
L426	COIL, RADIO FREQUENCY: Bendix No. C215350-7	1
R457	RESISTOR, FIXED, WIREWOUND: Bendix No. C220572-1	1
R463	RESISTOR, FIXED, WIREWOUND: Bendix No. C220545-1	1
R466	RESISTOR, FIXED, WIREWOUND: Bendix No. L220590-5	1
Y401	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-1	1
Y402	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-3	1
Y403	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-2	1
Y404	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-6	1
Y405	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-5	1
Y406	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-4	1
Y407	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-11	1
Y408	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-10	1
Y409	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-9	1
Y410	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-8	1
Y411	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-7	1

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	NAVY SPARE PARTS LIST SP27427 (Continued)	
Y412	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-15	1
Y413	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-14	1
Y414	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-13	1
Y415	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-12	1
Y417	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-17	1
Y418	CRYSTAL UNIT, QUARTZ: Bendix No. L221909-16	1
Z401	TRANSFORMER, RADIO FREQUENCY: Bendix No. L205602-3	1
Z402	TRANSFORMER, RADIO FREQUENCY: Bendix No. N206859-2	1
Z403	TRANSFORMER, RADIO FREQUENCY: Bendix No. L205604-4	1
Z404	TRANSFORMER, INTERMEDIATE FREQUENCY: Bendix No. L215724-3	1
C612	CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix No. C220250-2	2
I601	LAMP, INCANDESCENT: AN Type AN3140-327	2
K601	RELAY: Bendix No. L218581-1	1
K605	RELAY, THERMAL: Bendix No. C218265-7	1
R604	RESISTOR, VARIABLE: Bendix No. L219628-1	1
S601	SWITCH, ROTARY: Bendix No. C218500-8	1
S602	SWITCH, SENSITIVE: Bendix No. OA119536-7	1
S603	SWITCH, ROTARY: Bendix No. C218500-9	1
S604	SWITCH, ROTARY: Bendix No. C218500-7	1
C702	CAPACITOR, FIXED, PAPER DIELECTRIC: JAN type CN43E203M	1
F701	FUSE, CARTRIDGE: Bendix No. C221603-602	12
F703	FUSE, CARTRIDGE: Bendix No. C221603-202	12
F704	FUSE, CARTRIDGE: Bendix No. C221603-5371	6
F705	FUSE, CARTRIDGE: Bendix No. C221603-6103	6
I701	LAMP, INCANDESCENT: Bendix No. A104685	2
K701	RELAY, ARMATURE: Bendix No. C218377-1	1
K702	RELAY, ARMATURE: Bendix No. C218377-2	1
L701	REACTOR: Bendix No. L284318-1	1
L702	REACTOR: Bendix No. L284064-1	1

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	NAVY SPARE PARTS LIST SP27427 (Continued)	
R704	RESISTOR, FIXED, WIREWOUND: JAN type RW22G502	1
R709	RESISTOR, VARIABLE: Bendix No. L219625-51	2
R711	RESISTOR, FIXED, COMPOSITION: Bendix No. BRN10AB5003F	3
T701	TRANSFORMER, POWER, STEP-UP AND STEP-DOWN: Bendix No. L284319-1	1
T702	TRANSFORMER, POWER, STEP-DOWN: Bendix No. L284320-1	1
T703	TRANSFORMER, POWER, STEP-DOWN: Bendix No. L284063-1	1
CR701	RECTIFIER, METALLIC: Bendix L222921-1	1
B801	BLOWER: Bendix No. L222908-3	1
S801	SWITCH, PUSH-PULL: Bendix No. C218282-1	1
S803	SWITCH, THERMOSTATIC: Bendix No. C218455-1	1
C923	CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix No.C65524-680	2
C951	CAPACITOR, FIXED, CERAMIC DIELECTRIC: Bendix No.C220077-2	2
C967	CAPACITOR, FIXED, PAPER DIELECTRIC: Bendix No. C220194-1	1
F901	FUSE, CARTRIDGE: Bendix No. C221603-6202	5
I901	LAMP, INCANDESCENT: AN type AN3140-328	3
L901	COIL, RADIO FREQUENCY: Bendix No. L284025-2	1
L907	REACTOR: Bendix No. L284331-1	1
L908	COIL, RADIO FREQUENCY: Bendix No. L284059-1	1
L911	COIL, RADIO FREQUENCY: Bendix No. C284040-1	1
R901	RESISTOR, VARIABLE, COMPOSITION: Bendix No. L219625-46	1
R902	RESISTOR, VARIABLE: Bendix No. L219625-47	1
R914	RESISTOR, VARIABLE, COMPOSITION: Bendix No. L219625-9	1
R920	RESISTOR, VARIABLE: Bendix No. L219625-48	1
R963	RESISTOR, FIXED, FILM: Bendix No. BRN10AB1004F	4
R967	RESISTOR, FIXED, FILM: Bendix No. BRN10AB2203F	2
R968	RESISTOR, FIXED, FILM: Bendix No. BRN10AB1803F	1
R976	RESISTOR, FIXED, FILM: Bendix No. BRN10AB1802F	1
R995	RESISTOR, FIXED, FILM: Bendix No. BRN10AB8202F	2



HUMIDITY INDICATOR

52B22849

IF PINK
MATERIAL
MILDEWS

DANGER
IF PINK
→
CHANGE
DESICCANT

WARNING
IF PINK

DO NOT PLACE IN
CONTACT WITH METAL

HUMIDIAL CO., COLTON, CALIF.

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	NAVY SPARE PARTS LIST SP27427 (Continued)	
R996	RESISTOR, FIXED, FILM: Bendix No. BRN10AB8201F	1
R1001	RESISTOR, FIXED, FILM: Bendix No. BRN10AB1503F	2
R1008	RESISTOR, VARIABLE: Bendix No. L219625-49	1
R1013	RESISTOR, VARIABLE: Bendix No. L219625-8	1
R1036	RESISTOR, FIXED, COMPOSITION: Bendix No. L220590-4	1
R1038	RESISTOR, FIXED, COMPOSITION: Bendix No. L220590-3	1
R1040	RESISTOR, VARIABLE: Bendix No. L219627-2	1
R1059	RESISTOR, VARIABLE: Bendix No. L219627-1	1
R1061	RESISTOR, VARIABLE: Bendix No. L219625-52	1
R1066	RESISTOR, VARIABLE: Bendix No. L219625-4	1
S901	SWITCH, SENSITIVE: Bendix No. C218305-1	1
S902	SWITCH, LEVER, PILE-UP: Bendix No. C206555-1	1
S910	SWITCH, ROTARY: Bendix No. C218500-10	1
T901	TRANSFORMER, AUDIO FREQUENCY: Bendix No. C284058-1	1
T903	TRANSFORMER, RADIO FREQUENCY: Bendix No. L284056-1	1
H1101	SCREW, SPECIAL: Bendix No. A241457-1	4
P1202	CONNECTOR, RECEPTACLE: MIL type UG-89/U	1
R1303	RESISTOR, FIXED, FILM: Bendix No. BRN10AB1504F	1
R1304	RESISTOR, FIXED, FILM: Bendix No. BRN10AB1001F	1
	MARINE SPARE PARTS LIST SP27474	
E101	BRUSH, ELECTRICAL CONTACT: Bendix No. C293378-2	4
E104	CONTACT, ELECTRICAL: Bendix No. C294001-1	6
E112	CAP, ELECTRICAL: Bendix No. A237262-1	2
V201	ELECTRON TUBE: JAN type No. 5654/6AK5W	1
V202	ELECTRON TUBE: JAN type No. 5670	5
V206	ELECTRON TUBE: JAN type No. 6F4	1
V209	ELECTRON TUBE: JAN type No. 6AS6	4
V306	ELECTRON TUBE: JAN type No. 5726/6AL5W	1

TABLE 8-5. EQUIPMENT SPARE PARTS LIST

SYMBOL REF.	NAME OF PART AND DESCRIPTION	QUANTITY
	MARINE SPARE PARTS LIST SP27474 (Continued)	
V312	ELECTRON TUBE: JAN type No. 5686	1
I601	LAMP, INCANDESCENT: AN type No. 3140-327	2
K605	RELAY, THERMAL: Bendix No. C218265-7	1
F701	FUSE, CARTRIDGE: Bendix No. C221603-602	5
F703	FUSE, CARTRIDGE: Bendix No. C221603-202	5
F704	FUSE, CARTRIDGE: Bendix No. C221603-5371	5
F705	FUSE, CARTRIDGE: Bendix No. C221603-6103	5
I701	LAMP, INCANDESCENT: Bendix No. A104685	1
V701	ELECTRON TUBE: JAN type No. 5R4WGY	1
V702	ELECTRON TUBE: JAN type No. OC3	1
V704	ELECTRON TUBE: JAN type No. 6AS7G	1
F901	FUSE, CARTRIDGE: Bendix No. C221603-6202	10
I901	LAMP, INCANDESCENT: AN type No. 3140-328	2
V916	ELECTRON TUBE: JAN type No. 5CP12	1
V918	ELECTRON TUBE: JAN type No. 6X4W	1
V919	ELECTRON TUBE: JAN type No. OA2	2
V920	ELECTRON TUBE: JAN type No. OA3	1
V924	ELECTRON TUBE: JAN type No. 5651	1
V925	ELECTRON TUBE: JAN type No. 6L6GA	1
V926	ELECTRON TUBE: JAN type No. 1Z2	1
CR1301	CRYSTAL UNIT, RECTIFYING: JAN type No. 1N69	3
H1401	HARDWARE KIT FOR AB-198/U: Bendix No. A248074-1	1

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
101 thru 199	F16-A-45190-5801	2A264-514
A101		
A102		
A103		
A104		
A105		
A106	N17-M-84888-3626	3H175-6
A107		
A108		
B101	N17-M-55294-7166	3H3000A28-5
C103	N16-C-50717-5944	3DB6-74
C104	N16-C-45773-7507	3DA100-1043
E101	N17-B-86638-3535	3H525G-13
E104	N17-C-78145-4241	2Z3194-122
E105	N17-C-61201-1001	
E106	N16-C-146190-101	6Z7598-25
E107	N16-N-87169-5001	6L3401-16-24
E108	N16-C-600701-187	2Z3262-100
E109	N17-M-12774-1611	6Z6974-28
E110		
E111		
E112	N17-C-200636-699	2A387.6-6
E114	N16-A-70501-1094	2A290B-8-11
E115	N16-A-70501-1079	2A290B-8-10
E120	N16-R-653001-142	
E121	N17-I-50070-1601	3G380-1
E123	N17-I-50070-1221	3G100-377
E125	N17-I-77219-1658	3G385-202
E129		
E130		
E131		
G101	N17-G-47976-1053	
H101	N16-M-61127-4446	2Z1239-189
H102	N17-C-781535-345	M293
H103	N16-M-61133-6371	2Z2642.979
H104		
J101	N17-C-67729-2433	2Z308-271
J102	N17-C-72273-4343	2Z3075-54
J103	N17-C-73600-1903	2Z3036-21
K101	N17-S-41969-1566	
L101	N16-C-71596-4351	3C1084C-69
L105		
O101	N33-P-1561-2362	6Z7465-60
O103	N33-P-1561-880	2Z4866.410
O104	N33-P-1560	2Z4866.351
O105	N17-G-154174-583	2Z4867.925
O106	N17-G-154281-425	2Z4867.924
O107	N33-P-1561-960	6Z7465-58
O108	N33-P-1561-702	6Z7465-59
O109	N77-B-111-02010-8444	3H305-311
O110	N77-B-120-02532-8444	3H305-312
O111	N17-C-98379-2699	2Z3295-213
O112	N17-C-98378-4596	2Z3295-212
O113	N16-R-651091-323	
O118	N16-N-87223-9001	6L3402-16-44
O119	N17-C-200875-661	2Z1612

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
0120	N17-C-200877-861	2Z1612.8	C226	N16-C-15949-1925	3D9012-67
0122	N17-C-945002-261	2Z3351-628	C234	N16-C-40105-5311	3DA2-211
0123			C235	N16-C-44109-2015	
P101A	N17-C-71414-1801	2Z7390-536	C238	N16-C-32831-3608	3K3556221
P101B	N17-C-71422-3137	2Z7390-154	C251	N16-C-16661-1291	3DA1-393
P102	N17-C-70621-4350	2Z3034-40	C258	N16-C-28388-5877	3D9091-17
P103			C261	N16-C-26020-7691	3D9010-240
R101	N16-R-72889-3537	3Z6008B2-26	C262	N16-C-26442-8169	3D9015-159
T101	N16-A-13601-1012	2Z3265B-4	C276	N16-C-27766-7541	3D9056-34
W101	N16-T-25301-1523	2Z10008-209	E201		
TB101	N17-B-78038-4128	3Z770-14.100	E202		
200 thru 699	F16-R-31680-9601	2C4180-353	E203	N17-I-59404-5501	3Z12073-65
			E206	N17-T-28283-1401	3Z12101-15.5
B201		3H3100A01-35	E207	N16-S-36341-1011	2Z3804.393
C201	N16-C-29713-6603	3D9330-25	E208	N17-T-28255-3281	3Z12101-15.4
C202	N16-C-32646-6808	3K3547221	E209	N17-I-49497-2902	3G100-353
C203	N16-C-18914-4801	3DA2.500-46	E210	N16-S-34532-8754	2Z8304.287
C204	N16-C-30119-5130	3D9470-37	E211	N16-S-34520-3864	2Z8304.57
C205			E218		
C206	N16-C-25102-6071	3D9005-116	E222		
C208		3D9007-VE89	E226		
C210			E227		
C211	N16-C-27191-7230	3D9033-35	E228		
C212	N16-C-18177-7701	3D9470-64	E229		
C214	N16-C-26025-8210	3D9010-154	E230	N17-T-28255-3250	3Z12101-15.2
C215	N16-C-27587-4230	3D9047-49	E231	N16-S-34433-5501	
C216	N16-C-41623-2974	3DA6-108	H201		
C219	N16-C-31095-6335	3DA1-388	H202	N43-S-52892-1995	6L4770-48.81S
C222	N16-C-33622-5222	3K3510321	H204		

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
J201	N17-C-72811-2237	
J203	N17-C-73108-2575	
J204	N16-H-73136-4100	2Z8681.20
K201	N17-R-65219-8468	
K202	N17-E-32201-1133	2Z2866-18
K203	N17-E-32201-1134	
L201	N16-C-74539-8741	3C323-192C
L202	N16-C-76281-5509	3C1084Z-48
L203	N16-C-71783-2943	3C1084C-73
L204	N16-C-71627-1686	3C1084C-72
L211		
L215	N16-C-72556-4628	3C323-192P
L217	N16-C-72164-8391	3C336-155
N203	N16-S-117101-901	2Z3723-503
O201		
O202	N77-B-115-319-2004	2Z581-104
O204		
O205		
O206	N42-R-2053-15	
O207	G77-B-115-00209-2004	3H305-310
O213		
O214		
O215		
O216		2Z4878-1195
O218		
O219		
O220		
O221		
O222		
O224	N17-S-46793-1002	2Z8877.250
O227	N16-R-651091-309	2Z7858-137
O228	N17-R-651091-125	
O232		
O234		
O236		
O237		
O238		
O241		2Z4875-382
O242		2Z4875-380
O243		
O244	N77-B-111-00902-8444	3H305-314
O245	N16-S-20979-8361	2Z8203-896
O248		
O249		
O250		
P201	N17-C-71408-5333	2Z7390-88
R201	N16-R-50975-811	3RC20BF105K
R202	N16-R-50066-816	3RC20GF332K
R203	N16-R-49940-811	3RC20BF122K
R204	N16-R-49922-730	3RC20GF102K
R205	N16-R-50201-818	3RC20GF682K
R206	N16-R-50337-243	3RC30GF153K
R208	N16-R-50093-816	3RC20GF392K
R210	N16-R-49967-760	3RC20GF152K
R211	N16-R-50552-811	3RC20BF683K
R213	N16-R-50633-811	3RC20BF104K
R214	N16-R-50282-725	3RC20GF103K
R215	N16-R-50373-238	3RC30GF223K

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
R216	N16-R-50094-238	3RC30GF392K	TB204		
R217	N16-R-50480-811	3RC20BF473K	XV201	N16-S-62063-6716	2Z8677.241
R220	N16-R-50040-233	3RC30GF272K	XV202	N16-S-64063-6725	2Z8679.38
R221	N16-R-50634-234	3RC30GF104K	XV206	N16-S-62646-6801	
R222	N16-R-50399-813		XV207	N16-S-62646-6795	
R224	N16-R-49661-818	3RC20GF221K	XV209	N16-S-62603-6700	2Z8677.99
R225					
R226	N16-R-66085-3846	3RW25509			
R229	N16-R-49688-811	3RC20BF271K			
R233	N16-R-50310-238	3RC30GF123K			
R235	N16-R-49922-811	3RC20BF102K			
R236	N16-R-50336-811	3RC20BF153K			
R237	N16-R-49625-818	3RC20GF151K			
R238	N16-R-50282-811	3RC20BF103K			
R239	N16-R-49986-511	3RC42GF182K			
R244	N16-R-50714-811	3RC20BF224K			
S202	N17-S-58917-2729				
S203	N17-S-91897-8974				
V201	N16-T-75654	2J5654/6AK5W			
V202	N16-T-75670	2J5670			
V206	N16-T-56295	2J6F4			
V209	N16-T-56201	2J6AS6			
Z201	N17-T-68139-1021				
Z202	N17-T-68139-4915	2Z9643.510			
Z204	N17-S-50962-6865				
TB201	N17-B-78168-2001	3Z770-23.14			
TB202	N17-B-77835-8201	3Z770-8.169			
TB203	N17-B-77887-6851	3Z770-9.57			

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDAND NAVY	SIGNAL CORP
C304	N16-C-27766-7541	3D9056-34	J302	N16-H-73136-4100	2Z8681.20
C305		3D9150-91	L318	N16-C-72422-2752	3C336-157
C306	N16-C-42762-8965	3DA10-412	0301	N17-S-46720-8491	2Z8877.402
C307	N16-C-26601-1443	3D9018-47	0302	N16-R-651091-309	2Z7858-137
C308	N16-C-26020-7691	3D9010-240	P301	N17-C-71408-5333	2Z7390-88
C309	N16-C-54808-7795	3DA25-35			
C338	N16-C-27582-1755	3D9047-51	R301	N16-R-50480-811	3RC20BF473K
C340			R302	N16-R-49922-811	3RC20BF102K
C342	N16-C-30119-5130	3D9470-37	R303	N16-R-50418-233	3RC30GF333K
C345			R304	N16-R-50714-811	3RC20BF224K
C349	N16-C-29375-7986	3D9220-29	R305	N16-R-49940-811	3RC20BF122K
C355	N16-C-32651-9288	3K3547224	R306	N16-R-50094-238	3RC30GF392K
C356	N16-C-54677-8101	3DB2-253	R307	N16-R-50975-811	3RC20BF105K
C357	N16-C-43525-6273	3DA30-86	R308	N16-R-49961-811	3RC20BF221K
C358	N16-C-31913-4044		R313	N16-R-50822-811	3RC20BF474K
C361	N16-C-33279-6023	3K352221	R314	N16-R-49769-811	3RC20BF471K
C362	N16-C-41623-2974	3DA6-108	R316	N16-R-50354-811	3RC20BF183K
C364	N16-C-40105-5311	3DA2-211	R318	N16-R-50516-818	
C378		3D9100-270	R320		
E301	N17-C-805285-101	2Z2712.173	R323	N16-R-51065-811	3RC20BF225K
E302	N16-S-34532-8754	2Z8304.287	R324	N16-R-49688-746	3RC20GF271K
E306	N16-S-34576-6514		R326	N16-R-50282-811	3RC20BF103K
E307	N16-S-34520-3864	2Z8304.57	R327	N16-R-50858-811	3RC20BF564K
E315	N17-I-49497-2902	3G100-353	R329	N16-R-50786-811	3RC20BF394K
E316	N17-T-28255-3281	3Z12101-15.4	R331	N16-R-50588-811	3RC20BF823K
E317			R332	N16-R-50399-813	
H302			R339	N16-R-50399-811	3RC20BF273K
H303	N43-S-52892-2020	6L4770-61.81F	R340	N16-R-50741-811	3RC20BF274K
J301	N17-C-73108-1267		R341	N16-R-65974-5966	3RW23703

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
R344	N16-R-50012-0811	3RC20BF222K	XV301	N16-S-62603-6700	2Z8677.99
R345	N16-R-50552-818		XV309	N16-S-64063-6725	2Z8679.38
R347			XY301	N16-S-54287-5051	2Z8761-60
R350	N16-R-50201-818	3RC20GF682K			
R352	N16-R-50336-815	3RC20GF153K	B401	N17-M-59443-2561	3H3100A01-33
R353	N16-R-50373-238	3RC30GF223K	C401	N16-C-30119-5130	3D9470-37
R354	N16-R-50166-238	3RC30GF562K	C402	N16-C-28547-8660	3D9100-263
R355	N16-R-49625-0811	3RC20BF151K	C403	N16-C-54808-7795	3DA25-35
R359			C405	N16-C-28204-9457	3D9082-31
R360	N16-R-50012-816		C406	N16-C-16149-1215	3D9022-40
R361	N16-R-50696-818	3RC20GF184K	C410	N16-C-26442-8169	3D9015-159
R363	N16-R-49769-799	3RC20GF471K	C411	N16-C-27176-2749	3D9033-36
R368	N16-R-49580-0811	3RC20BF101K	C412	N16-C-27756-5650	3D9056-35
R372	N16-R-50516-811	3RC20BF563K	C413	N16-C-28388-5877	3D9091-17
R374	N16-R-73209-1083	3Z6715-96	C414	N16-C-28811-6590	3D9130-22
T301	N17-T-64956-1305	2Z9632.829	C415	N16-C-29260-1390	3D9200-108
V301	N16-T-56201	2J6AS6	C416	N16-C-29655-7393	3D9300-65
V306	N16-T-75726	2J5726/6AL5W	C417	N16-C-30103-8386	3D9470-32
V309	N16-T-75670	2J5670	C418	N16-C-29892-9975	3D9390-19
V312	N16-T-75686	2J5686	C420	N16-C-58403-1346	3D9013VE13
Y301	N16-C-97567-8781	2X209-12517.8	C421	N16-C-27835-6790	3D9062-13
Z301	N17-T-68139-4915	2Z9643.510	C443	N16-C-26020-7691	3D9010-240
Z302	N17-T-67794-7514		C447	N16-C-28563-4091	3D9100-287
Z304	N17-T-67794-7805	2Z9642.153	C449	N16-C-27123-4949	3D9030-64
Z305	N17-T-67794-7835	2Z9642.152	C453	N16-C-27070-7149	3D9027-46
Z306	N17-T-67794-7751	2Z9642.154	C474	N16-C-43535-3080	3DA30-109
Z307	N17-T-65518-7330	2Z9632.832	C479	N16-C-42762-8965	3DA10-412
TB301	N17-B-77840-8801	3Z770-8.161	C496	N16-C-40105-5311	3DA2-211
TB302	N17-B-78237-3591	3Z770-33.5	C501	N16-C-41623-2974	3DA6-108

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
E401			O416	N16-G-431615-811	2Z4878-1155
E402			O419	N16-G-432015-551	2Z4878-1151
E403			O420		2Z4875-363
E405	N16-S-34520-3864	2Z8304.57	O421		2Z4875-362
E409	N16-S-34532-8754	2Z8304.287	O422		2Z4875-364
E416	N17-T-28218-3901	3Z12101-22.1	O423		
E417	N17-T-28255-3281	3Z12101-15.4	O427	N16-G-431218-211	2Z4878-1149
E425	N17-I-59406-6721	3Z12101-15.6	O429	N17-A-25801-1021	
E428			O432		2Z2866-20
E430			O434		
E431			O435		2Z380-96
H401	N43-S-52892-2040		P401	N17-C-71408-5333	2Z7390-88
H405			R401	N16-R-49661-811	3RC20BF221K
H410			R402	N16-R-50633-811	3RC20BF104K
J401	N17-C-73108-1267		R404	N16-R-49922-811	3RC20BF102K
J402	N16-H-73136-4100	2Z8681.20	R405	N16-R-50066-811	3RC20BF332K
K401	N17-R-65219-7831		R407	N16-R-50822-811	3RC20BF474K
K403	N17-R-65219-7821		R408	N16-R-49769-811	3RC20BF471K
K404	N17-R-64679-6842	2Z7586-191	R409	N16-R-49922-730	3RC20GF102K
L401	N16-C-76443-2153	3C1084Z-49	R414	N16-R-50786-811	3RC20BF394K
L402	N16-C-76678-7155	3C1084Z-50	R421	N16-R-50418-233	3RC30GF333K
L404	N16-C-72304-6403	3C336-153	R424	N16-R-50067-233	3RC30GF332K
L412	N16-C-76233-4839	3C1084C-74	R425	N16-R-50714-811	3RC20BF224K
L415	N16-C-74539-8741	3C323-192C	R428	N16-R-49706-811	3RC20BF331K
L424	N16-C-72497-7789	3C336-154	R429	N16-R-50373-238	3RC30GF223K
L426	N16-C-72435-4635	3C323-192M	R438	N16-R-50975-811	3RC20BF105K
L438	N16-C-72422-2752	3C336-157	R443	N16-R-50480-811	3RC20BF473K
O401	N16-R-651091-309	2Z7858-137	R444	N16-R-50551-111	3RC10BF683J
O405	G77-B-115-00209-2004	3H305-310	R446	N16-R-50651-811	3RC20BF124K

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
R447	N16-R-50759-0811	3RC20BF334K	Y414	N16-C-96984-5171	2X231-3766.667
R451			Y415	N16-C-96983-2001	2X231-3750
R452	N16-R-50695-436	3RC20GF184J	Y417	N16-C-97078-8126	2X231-5181.25
R453	N16-R-49967-760	3RC20GF152K	Y418	N16-C-97078-2793	2X231-5172.917
R458	N16-R-49770-233	3RC30GF471	Z401	N17-T-81436-6941	2Z9646.56
R463	N16-R-83941-7067	3Z6020-272	Z402	N17-T-81452-3134	
R466-1			Z403	N17-T-81457-7925	2Z964.58
R468			Z404	N17-T-81457-6701	
R469			Z405	N17-T-81453-9814	2Z9646.59
S403			Z406	N17-T-81442-3827	2Z9646.57
S404	N17-S-65462-9015	3Z9825-65.74	Z407	N17-T-67200-8781	2Z9643.509
S405			HR407		
V401	N16-T-75670	2J5670	HR408		
V404	N16-T-75654	2J5654/6AK5W	TB401		
V405	N16-T-56201	2J6AS6	TB402	N17-B-77384-7901	3Z770-7.55
V409	N16-T-75726	2J5726/6AL5W	TB404	N17-B-77984-5251	3Z770-12.176
Y401	N16-C-96672-3337	2X248-833.333	TB405	N17-B-77933-2729	3Z770-10.142
Y402	N16-C-96960-1051	2X231-3400	XE401	N16-S-63583-9191	2Z8670.75
Y403	N16-C-96948-9336	2X231-3233.333	XV401	N16-S-64063-6725	2Z8679.38
Y404	N16-C-96993-4051	2X231-3900	XV404	N16-S-62603-6700	2Z8677.99
Y405	N16-C-96982-3336	2X231-3733.333			
Y406	N16-C-96354-5171	2X231-3566.667	C610	N16-C-44285-6258	3DA50-304
Y407	N16-C-96981-2171	2X231-3716-667	C612	N16-C-42765-4822	3DA10-654
Y408	N16-C-96979-9951	2X231-3700	C616	N16-C-42762-8965	3DA10-412
Y409	N16-C-96978-9337	2X231-3683.333	C619	N16-C-54535-9808	3DA250-346
Y410	N16-C-96977-8171	2X231-3666.667	C633	N16-C-41623-2974	3DA6-108
Y411	N16-C-96976-6066	2X231-3650	C639	N16-C-47335-6208	3DA500-610
Y412	N16-C-96986-7051	2X231-3800	C640	N16-C-18657-8801	3DA1-326
Y413	N16-C-96985-6337	2X231-3783.333	E601	N17-T-28283-2391	3Z12073-65.3

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
H601	N43-S-52893-5647	614774-21.8K1	R601		
H603			R602		
H606			R603		
H609	N16-C-300798-621	2Z5042-4	R604	N16-R-87852-5611	3Z7450-213
H610			R605		
I601	N17-L-6491-220	6Z6828-4	R607	N16-R-50417-823	
J601	N17-C-67728-3321		R608		
J602	N17-C-72651-1551	2Z3046.49	R610	N16-R-83941-7067	3Z6020-272
J603	N17-C-73345-7623	2Z3082-136	R613	N16-R-50552-818	
J604	N17-C-73324-2637	2Z3081-19	R614	N16-R-49580-0766	
J606			S601	N17-S-65278-9001	3Z9825-65.76
K601	N17-R-65624-2521		S602	N17-S-69294-5276	
K605	N17-R-72903-8601	2Z7598-192	S603	N17-S-59454-6131	3Z9825-65.77
L628	N16-C-72497-7789	3C336-154	S604	N17-S-60605-1001	
L630	N16-C-72422-2752	3C336-157	W601		
L643	N16-C-72164-8391	3C336-155	TB601	N17-B-78327-4469	3Z770-54.3
N601			TB602	N17-B-78222-4739	3Z770-30.30
N602			XI601		
N603			XI601A		
N604			XI601B		
N606			XK605	N16-S-63451-1901	2Z8670.33
O601					
O602	N17-S-150263-102	2Z8085-1.34	C701	N16-C-51881-9090	3DB10-233
P601	N17-C-71408-5333	2Z7390-88	C702	N16-C-43147-6607	3DA20-210
P601A	N17-C-71408-5333	2Z7390-88	C703	N16-C-45805-6260	3DA100-838
P602	N17-C-70087-2252	2Z3082-139	E701	N16-C-34520-3864	2Z8304.57
P603	N17-C-73649-6966	2Z3046.51	E702	N17-T-28255-3281	3Z12101-15.4
P604	N17-C-73617-3451	2Z3040-15	F701	N17-F-16302-150	3Z2606.3
P605	N17-C-73649-6966	2Z3046.51	F703	N17-F-16302-100	3Z2602.26
P606					

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP	KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
F704	N17-F-14310-345	3Z2588.2	T701	N17-T-74242-7643	2Z9621B-87
F705	N17-F-14306-520	3Z2610.35	T702	N17-T-70700-9832	2Z9621B-88
H701	N16-C-300798-866	2Z2642.170	T703	N17-T-71459-1436	2Z9621B-86
H703	N16-C-300798-452	2Z2636-28	V701	N16-T-55446	2J5R4WGY
H704	N43-S-52893-5647	6L4774-21.8K1	V702	N16-T-53050	2J0C3
H705	N17-C-945001-930	2Z3351-588	V703	N16-T-56201	2J6AS6
H706	N16-M-61148-1050	2Z1239.189	V704	N16-T-56202	2J6AS7G
I701	N17-L-3919-275	2Z5877-58	CR701	N17-R-51121-1601	3H4860-305
J701	N17-C-72651-1551	2Z3046.49	TB701	N17-B-77585-4531	3Z770-3.119
J702	N17-J-39652-5801	2Z5598-78	TB702	N17-B-78114-7144	3Z770-18.90
J703	N16-H-73136-4100	2Z8681.20	XF701	N17-F-74267-5401	3Z3275
K701	N17-R-65471-9065	2Z7590-300	XI701		
K702	N17-R-65098-8711	2Z7599A-507	XI701A		
L701	N16-R-29091-6716	3C575N-7	XI701B		
L702	N16-R-28896-6523	3C575N-6	XV701	N16-S-63451-1901	2Z8670.33
O701	N17-S-150263-102	2Z8085-1.34	XV703	N16-S-62603-6700	2Z8677.99
O702	N17-G-159380-641	2Z4867.1076			
P702	N17-C-70375-1751	2Z3082-137	801 thru 899	N16-C-10639-8315	6F300-890
R701	N16-R-50696-818	3RC20GF184K			
R702	N16-R-50822-761	3RC20GF474K	B801	N17-F-1067-2105	
R703	N16-R-50651-818	3RC20GF124K	B801A		
R704	N16-R-66252-3516	3RW28562	C801	N16-C-48841-9628	3DB1-233
R705	N16-R-49347-486	3RC42GF270K	C804	N16-C-18657-8801	3DA1-326
R707	N16-R-50714-818	3RC20GF224K	E801	N17-B-78141-9336	3Z770-20.80
R708	N16-R-50553-233	3RC30GF683K	H801		
R709	N16-R-87752-5560	3Z7425-145	H802		
R711	N16-R-73271-1311	3Z6750-136	H803		
S701	N17-S-74692-4506	3Z9863-52P	H804		
S702			H805	N17-C-781724-735	

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
J801	N17-C-67729-2433	2Z308-271
L801	N16-C-72026-8741	
0801		
0803	N17-C-794001-221	6Z3856-86
0804	N17-M-75466-6746	2Z8405-206
0810	N17-G-154174-583	2Z4867.925
P801A	N17-C-71422-3137	2Z7390-154
P801B	N17-C-71414-1801	2Z7390-536
S801	N17-S-57413-5989	
S803	N17-S-69888-4376	
TB801	N17-B-80177-1201	3Z772-8
TB802		
901 thru 1099	F16-I-48411-1009	
C901	N16-C-18787-8121	3DA1.500-72
C902	N16-C-54460-4310	3DA100-673
C903	N16-C-41623-2974	3DA6-108
C904	N16-C-18659-7775	3DA1-285
C905		
C906	N16-C-28547-8660	3D9100-263
C913	N16-C-18179-8022	3D9470-38
C919	N16-C-16532-2514	
C923	N16-C-16802-4160	
C951	N16-C-15638-4509	3D9005-156
C955	N16-C-48808-9150	3DB1-195
C957	N16-C-49981-9993	3DB4-282
C961	N16-C-45805-6260	3DA100-838
C962	N16-C-54363-1595	3DA20-287
C963	N16-C-45801-9515	3DA100-718
C964	N16-C-46371-9550	3DA250-650
C965	N16-C-32831-3608	3K3556221
C967	N16-C-45801-9592	3DA100-972
C968	N16-C-29903-4076	3K2039121
C970	N16-C-26843-5550	3D9022-49
C971		
C973	N16-C-53476-7496	3DA250-470
C974	N16-C-52992-7087	3DA100-735
C976	N16-C-18657-8801	3DA1-326
C977	N16-C-45814-9343	3DA100-1212
C978	N16-C-47335-6208	3DA500-610
E902	N17-T-28255-3281	3Z12101-15.4
E903		
E912	N17-T-28242-3626	3Z12101-9.14
E920	N17-I-69154-6198	
E926		
E927	N16-S-34520-3864	2Z8304.57
E936	N16-S-34557-8351	
E937	N16-S-34607-6039	
E940	N16-S-34532-8754	2Z8304.287
E947	N17-L-62643-5501	2Z2712.430
E948	N17-L-62678-6570	
E949	N17-C-813511-101	2Z2712.170
E950	N17-I-49516-6701	3G100-352
E951	N16-K-700266-893	2Z5822-444
E956	N16-K-702551-568	2Z5824.281
E957	N16-K-700277-452	2Z5824.280
E959		2Z3723-204

TABLE 8-6. CROSS REFERENCE PARTS LIST

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
E963		
E966	N16-S-34579-7224	2Z8308-38
E968	N17-T-28218-3901	3Z12101-22.1
F901	N17-F-14308-200	3Z2602.19
H901	N16-C-300798-452	2Z2636-28
H902	N16-C-300798-866	2Z2642.170
H905	N43-S-52882-820	6L4764-7.9S
H906		
H907		
H908	N16-M-60909-7976	2Z1250.174
H916	N17-C-965001-428	6Z1650-30
H918		
H919		
H921		
H928	N16-M-60958-3571	2Z1239.165
I901	N17-L-6543-175	2Z5877-12
I904	N17-L-6491-220	
J901	N17-C-72651-1551	2Z3046.49
J902		
J903		
J904	N17-J-39652-5801	2Z5598-78
J905	N16-H-73136-4100	2Z8681.20
L901	N16-C-74913-7844	
L907	N16-R-29104-9989	3C546-20
L908	N16-C-74241-8532	3C1084C-71
L909	N16-C-74539-8741	3C323-192C
L910	N16-C-72556-4628	3C323-192P
L911	N16-C-75072-3788	3C1084C-68
N901		
N902		
N903		
N904	N16-D-46338-1066	2Z3723-562
N907	N16-D-46338-1058	2Z3723-561
N908	N16-D-46337-9621	2Z3723-563
O901	N17-C-98378-4596	2Z3295-212
O903		
O904	N17-S-46668-8261	2Z8877.364
O906	N16-S-20892-6251	2Z8203-847
O907	N16-S-20884-2824	2Z8204-180
O908	N17-S-150263-101	6Z8093-8
O915	N17-S-150263-102	2Z8085-1.34
O918		
O919		2Z8877.344
O920		2Z8877.345
O922	G77-B-115-00409-2004	3H305-260
P901	N17-C-70087-2252	2Z3082-139
P902		
P903		
R901	N16-R-88012-5786	
R902	N16-R-88412-5591	3Z7499-2E5.29
R903	N16-R-49940-816	3RC20GF122K
R904	N16-R-50282-725	3RC20GF103K
R905	N16-R-50039-721	3RC20GF272K
R906	N16-R-50443-438	3RC20GF393J
R908	N16-R-50093-816	3RC20GF392K
R909	N16-R-50372-833	3RC20GF223K
R910	N16-R-50092-438	3RC20GF392J
R911	N16-R-50632-416	3RC20GF104J

Change 1 to Instruction Book for Direction Finder Set AN/URD-4, NAVSHIPS 91912 (A).

Change 1 revises the instruction book to cover corrections included in Temporary Corrections T-1 and T-2.

Instructions

Correct the instruction book as indicated below:

PAGE	PARA & LINE OR FIG. & LOCATION	ACTION
		Substitute pages marked "Change 1" for those marked "Original". Insert added pages in order.

Check instruction book for completion against revised "List of Effective Pages", and then destroy superseded pages.

Temporary Correction T-4 to the Instruction Book for Direction Finder Set AN/URD-4 [NAVSHIPS 91912(A)].

Temporary Correction T-4 applies to NAVSHIPS 91912(A) issued with AN/URD-4, serial numbers 410 and subsequent. These equipments were modified in production.

Serial numbers one through 409 will be modified by a field change. The purpose of the field change is to eliminate possibility of damage to the coil of relay K403 when thermal relay K605 opens.

DO NOT correct instruction books applicable to these serial numbers until the appropriate Field Change Bulletin is received.

Insert this temporary correction immediately after the front cover of NAVSHIPS 91912(A).

Temporary Corrections T-1 and T-2 are superseded by permanent change 1.

Figure 7-38, Receiver Frame, Schematic Diagram, should be corrected with pen and ink as follows:

1. Delete lead from pin nine of terminal board TB601 to pin seven of relay K605.
2. Draw lead from pin nine of terminal board TB601 to pin two of relay K605.

Figure 7-39, Receiver Frame, Wiring Diagram, should be corrected with pen and ink as follows:

1. Delete lead labelled "W-18-TB601-9" from pin seven of relay K605 and draw it to pin two of relay K605 instead.
2. Draw lead from pin seven of relay K605 to cable and label it "W-18-C660".
3. Correct lead labelled "K605-7-W-18", from pin nine of terminal board TB601 to cable, to read "K605-2-W-18".
4. Delete lead labelled "C660-W-18" from pin nine of terminal board TB601 to cable.

This wiring modification does not affect installation instructions, the operating procedure, or the maintenance practice of the equipment.

NAVSHIPS 91912 (A)

INSTRUCTION BOOK

for

DIRECTION FINDER SET AN/URD-4

BENDIX RADIO
DIVISION OF BENDIX AVIATION CORPORATION
BALTIMORE 4, MARYLAND

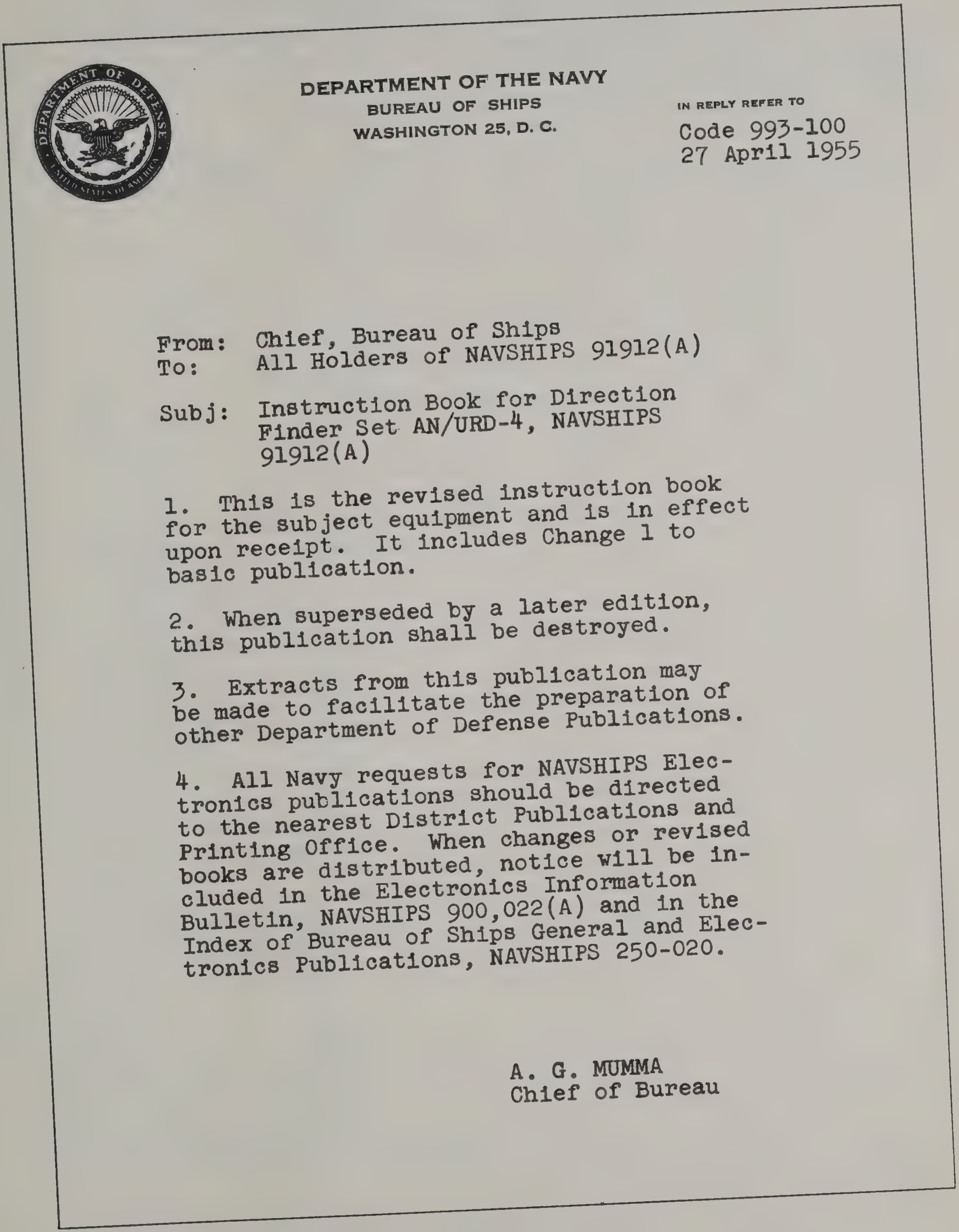
DEPARTMENT OF THE NAVY
BUREAU OF SHIPS

Contracts: NObsr 52513
NObsr 57098
NObsr 64563

Approved by BuShips: 21 January 1954
Change 1: 27 April 1955

LIST OF EFFECTIVE PAGES

PAGE NUMBERS	CHANGE IN EFFECT	PAGE NUMBERS	CHANGE IN EFFECT
Title page	Change 1	7-77 to 7-86	Original
A	Change 1	7-87/7-88	Change 1
B	Change 1	7-89 to 7-92	Original
C	Original	7-93/7-94	Change 1
i to v	Original	7-95 to 7-106	Original
1-0 to 1-6	Original	7-107	Change 1
1-7 and 1-8	Change 1	7-108 to 7-124	Original
2-1 to 2-21	Original	8-1	Original
3-0 to 3-16	Original	8-2 to 8-4	Change 1
4-1 to 4-7	Original	8-5	Original
5-0 to 5-2	Original	8-6 to 8-12	Change 1
5-3	Change 1	8-13 to 8-15	Original
5-4 to 5-7	Original	8-16 and 8-17	Change 1
5-8	Change 1	8-18	Original
5-9	Original	8-19 to 8-22	Change 1
6-1 to 6-4	Original	8-23	Original
7-1	Original	8-24 to 8-27	Change 1
7-2 and 7-3	Change 1	8-28	Original
7-4	Original	8-29 to 8-31	Change 1
7-4A	Change 1	8-32 to 8-34	Original
7-5 to 7-8	Original	8-35 to 8-37	Change 1
7-9 to 7-10A	Change 1	8-38 and 8-39	Original
7-11	Original	8-40 to 8-44	Change 1
7-12	Change 1	8-45	Original
7-13 to 7-19	Original	8-46 to 8-51	Change 1
7-20	Change 1	8-52 and 8-53	Original
7-21 to 7-28	Original	8-54 to 8-58	Change 1
7-29	Change 1	8-59 to 8-62	Original
7-30	Original	8-63 to 8-74	Change 1
7-31	Change 1	8-75	Original
7-32 to 7-34	Original	8-76 to 8-83	Change 1
7-35	Change 1	8-84	Original
7-36 to 7-40	Original	8-85	Change 1
7-41 to 7-43	Change 1	8-86 to 8-93	Original
7-44 and 7-45	Original	8-94	Change 1
7-46 and 7-47	Change 1	8-95 and 8-96	Original
7-48 to 7-60	Original	8-97	Change 1
7-61 to 7-66	Change 1	8-98	Original
7-67 to 7-72	Original	8-99 to 8-130	Change 1
7-73 to 7-76	Change 1	8-131 to 8-134	Original



DEPARTMENT OF THE NAVY
BUREAU OF SHIPS
WASHINGTON 25, D. C.

IN REPLY REFER TO
Code 993-100
27 April 1955

From: Chief, Bureau of Ships
To: All Holders of NAVSHIPS 91912(A)

Subj: Instruction Book for Direction Finder Set AN/URD-4, NAVSHIPS 91912(A)

1. This is the revised instruction book for the subject equipment and is in effect upon receipt. It includes Change 1 to basic publication.

2. When superseded by a later edition, this publication shall be destroyed.

3. Extracts from this publication may be made to facilitate the preparation of other Department of Defense Publications.

4. All Navy requests for NAVSHIPS Electronics publications should be directed to the nearest District Publications and Printing Office. When changes or revised books are distributed, notice will be included in the Electronics Information Bulletin, NAVSHIPS 900,022(A) and in the Index of Bureau of Ships General and Electronics Publications, NAVSHIPS 250-020.

A. G. MUMMA
Chief of Bureau

RECORD OF CORRECTIONS MADE

CHANGE NO.	DATE	SIGNATURE OF OFFICER MAKING CORRECTION

v. MAGNETIC VOLUMES:

Antenna AS-514/URD-4—127 cubic inches.

Receiver Group OA-485/URD-4—785 cubic inches.

Azimuth Indicator IP-93/URD-4—363 cubic inches.

w. TABLES:

(1) EQUIPMENT LISTS:

(*a*) EQUIPMENT SUPPLIED:—Table 1-1 lists the equipment supplied for Direction Finder Set AN/URD-4.

(*b*) EQUIPMENT REQUIRED BUT NOT SUPPLIED:—Table 1-2 lists equipment required for Direction Finder Set AN/URD-4, but not supplied.

(*c*) SHIPPING DATA:—Table 1-3 lists shipping data.

(*d*) ELECTRON TUBE COMPLEMENT:—Table 1-4 lists quantity and types of electron tubes versus major units.

TABLE 1-1. EQUIPMENT SUPPLIED

QUANTITY	NAME OF UNIT	NAVY TYPE DESIGNATION	OVER-ALL DIMENSIONS			VOLUME	WEIGHT
			HEIGHT	WIDTH	DEPTH		
1	Antenna	AS-514/URD-4	73-1/8	18-3/4 outer dia			106
1	Mast (two 10-foot sections)	AB-198/U	240	9-5/32 outer dia			36 per section
1	Receiver Group	OA-485/URD-4					182
	Contained in:						
	Cabinet Including:	CY-890/URD-4	23-3/8	21-3/4	26-1/8	7.5	
1	Power Supply	PP-556/URD-4					
1	Radio Receiver	R-353/URD-4					
1	Azimuth Indicator	IP-93/URD-4					96
	Contained in:						
	Electrical Equipment Cabinet	CY-1304/URD-4	13-3/4	21.00	28-7/8	4.55	
1	Radio Test Set	TS-777/URD-4	6-1/2	8.00	3-1/2	.95	4
1	Special Purpose Electrical Cable Assembly	CX-2356/U (3'10")					
1	Special Purpose Electrical Cable Assembly	CX-2357/U (3'11")					
2	Special Purpose Electrical Cable Assembly	CX-2358/U (3'8")					
1	Radio Frequency Cable Assembly	CG-1068/U (1'6")					
1	Radio Frequency Cable Assembly	CG-1068/U (3'0")					
2	Instruction Book	Navships 91912(A)					
1	Electrical Clamp (for Plug P103)	*C294088-1					
1	Grounding Ring (for Plug P103)	*C681095-1					
1	Connector plug, female (Plug P103)	*N287024-17					
2	Connector, r-f (Plug P101B, Plug P801A)	UG-154/U					
1	Dust cap	*C234585-2					
2	Dust cap	*C237740-1					
120	Solder lug	*A4735-1					
6 ft	Tubing, transparent	*OA111060-7					
1	Spare Parts	*SP27427 or *SP27974					
1	Adapter, connector	UG-216/U					

Dimensions in inches, volume in cubic feet, weight in pounds.

* Bendix type number.

TABLE 1-2. EQUIPMENT REQUIRED BUT NOT SUPPLIED

QUANTITY PER EQUIPMENT	NAME OF UNIT	NAVY TYPE DESIGNATION	REQUIRED USE	REQUIRED CHARACTERISTICS
1	Headset	--49016 or equivalent	For audio reception with Radio Receiver R-353/URD-4	600-ohm impedance
4	Guy wires		For mast, if necessary	Vary with installation
1	Target transmitter		To orient Antenna AS-514/URD-4	As described in Section 3, paragraph 3*c*.
1	Antenna Cable Assembly W1201	RG-18/U	For transmitting antenna signal to Receiver R-353/URD-4	
1	Antenna Cable W1202	TTRSA-6	Power and connecting cable	
1	Power Cable Assembly W1203	DSGA-4	Power input cable	
1	Connecting Cable W1204	TTHFWA-20	Connecting cable between Azimuth Indicator IP-93/URD-4 and Receiver R-353/URD-4	
1	Power Cable Assembly W1205	DSGA-4	Power input cable	

TABLE 1-3. SHIPPING DATA

SHIPPING BOX NO.	CONTENTS		OVER-ALL DIMENSIONS			VOLUME	WEIGHT
	NAME	DESIGNATION	HEIGHT	WIDTH	DEPTH		
1	Miscellaneous Parts, and instruction books		15-1/2	18	12-1/2	2.0	50
2	Antenna	AS-514/URD-4	33	35	86	57.5	370
3	Receiver Group—contained in Cabinet	OA-485/URD-4 CY-890/URD-4	35-1/2	37-1/2	33	25.5	392
4	Azimuth Indicator contained in Electric Equipment Cabinet	IP-93/URD-4 CY-1304/URD-4	27	36	19	9.1	205
5	Mast	AB-198/U	23-1/2	124	13	22.0	200
6	Spare Parts						
	Marine	SP 27474	16-1/2	25-1/2	15	5.0	85
	Navy	SP 27427	14-1/2	32	21-1/2	6.0	150

Dimensions in inches, volume cubic feet, weight pounds.

TABLE 1-4. ELECTRON TUBE COMPLEMENT

UNIT	NUMBER OF TUBES OF TYPE INDICATED																
	1Z2	5CP12	5R4WGY	6AS6	6AS7G	6F4	6L6WGB	6X4W	5651	5654/6AK5W	5670	5686	5726/6AL5W	OA2	OA3	OC3W	Total No. of Tubes
Radio Receiver R-353/URD-4				9		3				5	12	1	3				33
Azimuth Indicator IP-93/URD-4	2	1	1	7	1		1	1	1		7		2	2	1		27
Power Supply PP-556/URD-4			1	1	1											1	4
Total Number of Each Tube	2	1	2	17	2	3	1	1	1	5	19	1	5	2	1	1	64

TABLE 5-3. FUSE LOCATIONS

SYMBOL	LOCATION	PROTECTS	AMPERES	VOLTS	LOCATION ILLUSTRATED IN
F701 F702	Receiver Group OA-485/URD-4	Primary of power supply transformers T701 and T703 and blowers B101, B801, B802	6 6	250 250	Figure 5-1
F703		Primary of power supply transformer T702	2	250	
F704		Secondary of power supply transformer T701	3/8	250	
F705		Low voltage d-c circuit	10	25	
F706		Bridge power	2	250	
F901 F902	Azimuth Indicator IP-93/URD-4	Primary of power supply transformer T902	2 2	125 125	Figure 5-2

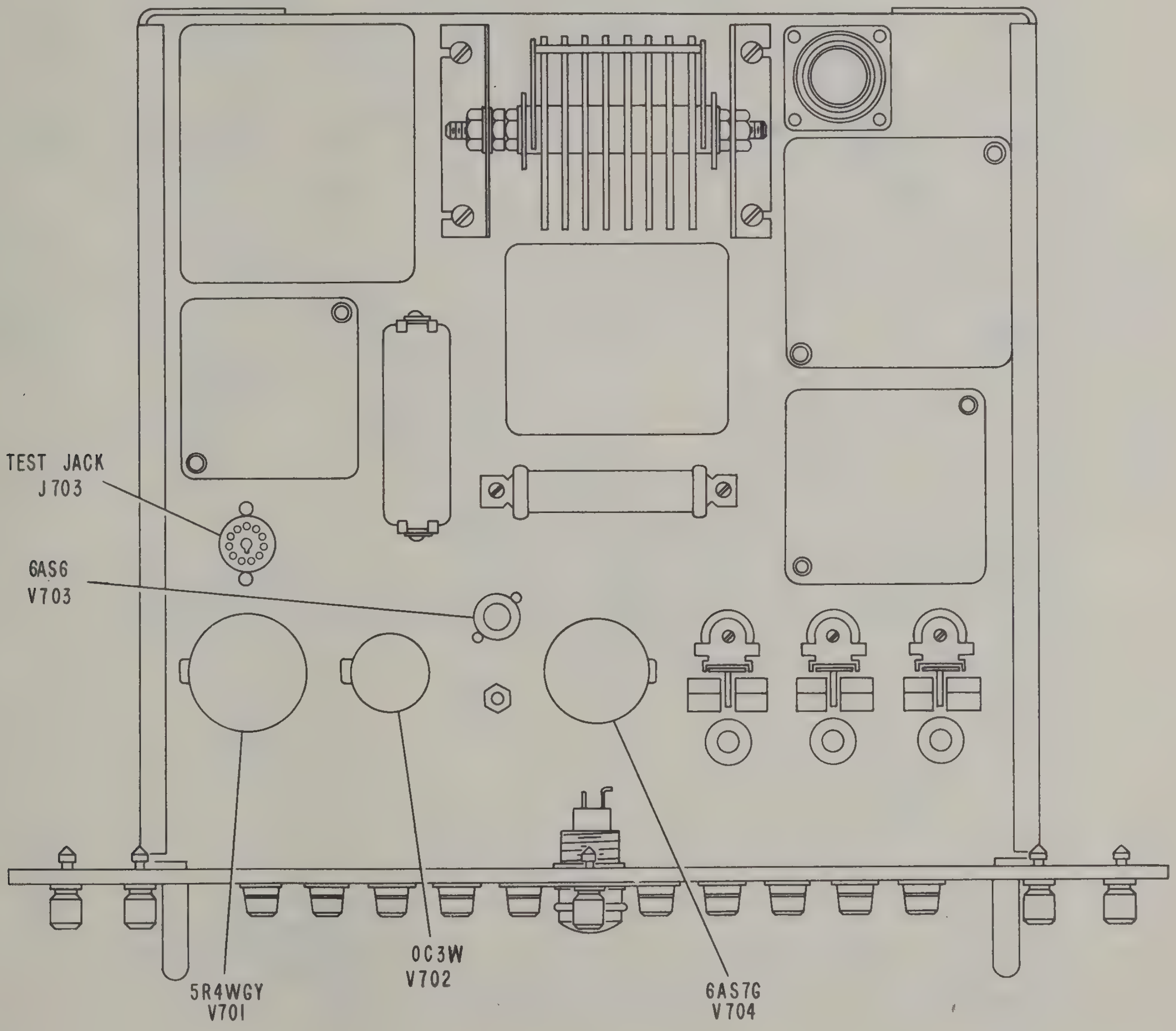
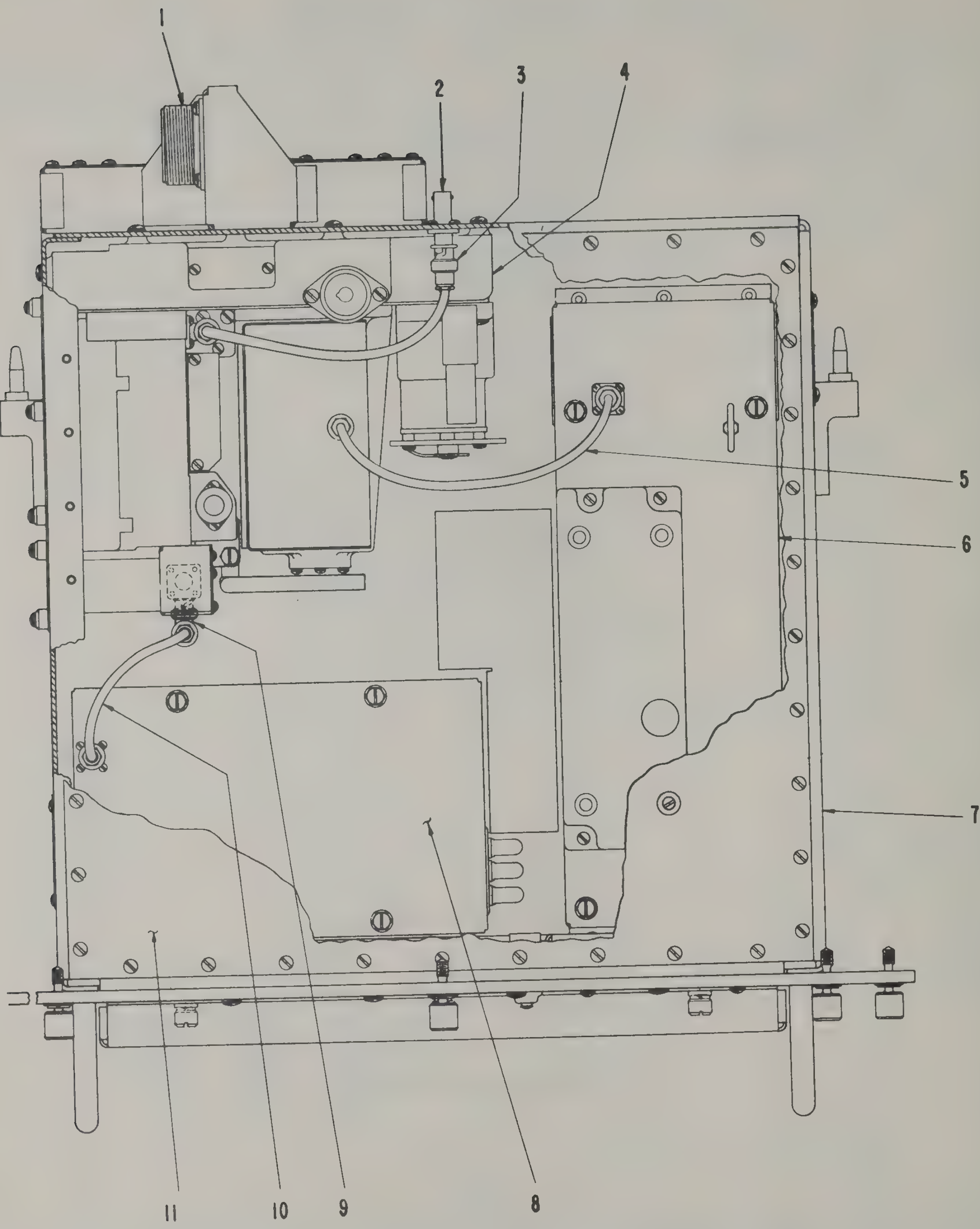


Figure 5-3. Power Supply PP-556/URD-4, Test Jack J703 and Tube Locations



1 Jack J602
2 Jack J601A
3 Cable W801
4 R-F Head
5 Cable W603
6 Monitor
7 Receiver Frame
8 I-F Video-Audio Chassis
9 Adapter (UG-306/U type)
10 Cable W602
11 Cover

Figure 5-4. Receiver R-353/URD-4, Location of Sub-Units

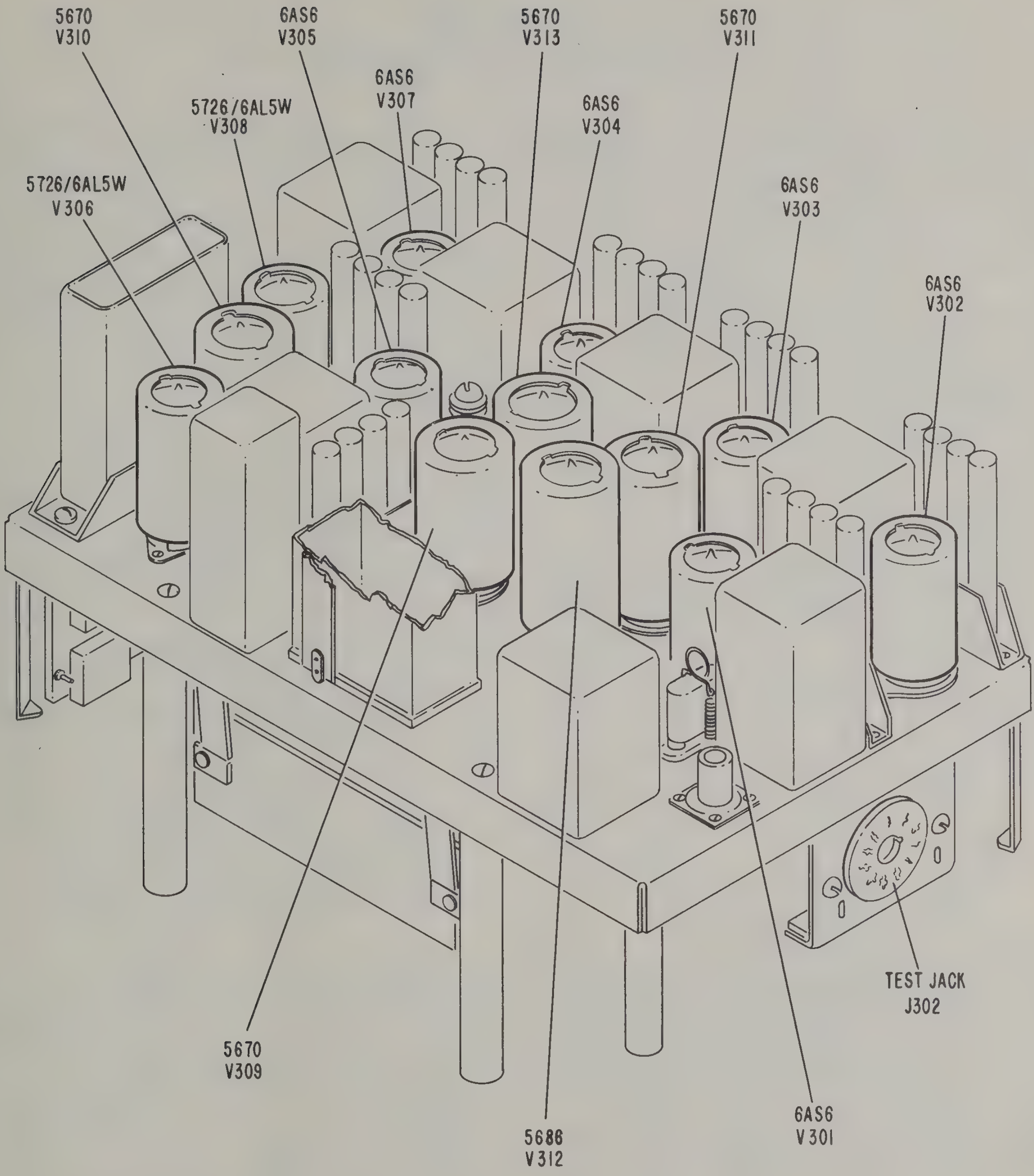


Figure 5-7. I-F Video-Audio Chassis, Test Jack J302 and Tube Locations

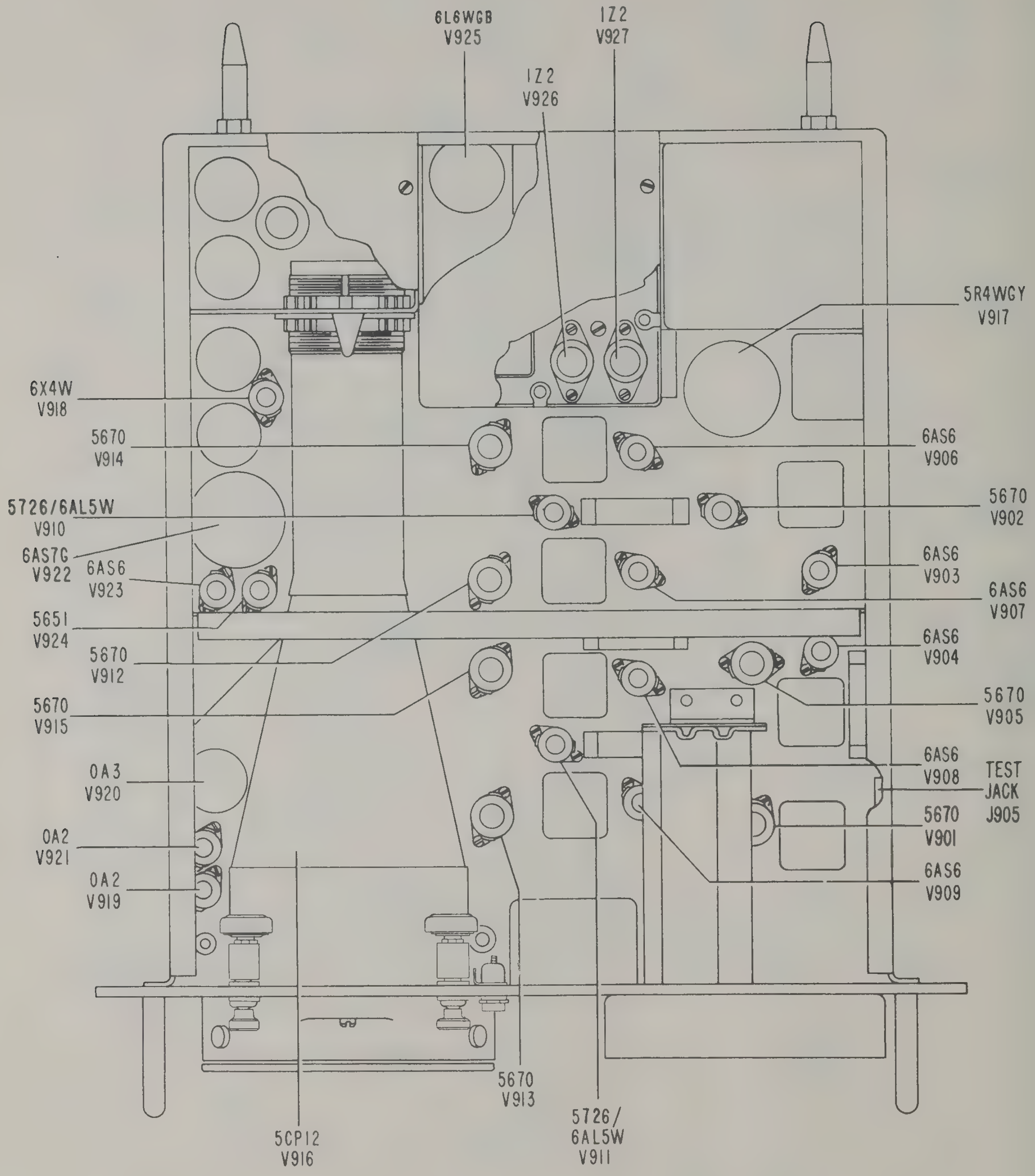


Figure 5-8. Azimuth Indicator IP-93/URD-4, Test Jack J905 and Tube Locations

SECTION 7
CORRECTIVE MAINTENANCE

1. THEORY OF LOCALIZATION.

Trouble shooting the direction finder set will be facilitated if a system is devised by which troubles can be quickly localized to a particular unit. A localization system will save man-hours of labor and will enable maintenance personnel to put equipment back into operation in the shortest period of time.

2. SYSTEM TROUBLE SHOOTING.

a. LOCATING FAULTY UNIT.—The following items should be kept in mind when an attempt is made to locate a faulty unit:

(1) For purposes of maintenance, the direction finder set can be operated "local" through controls contained in Receiver Group OA-485/URD-4.

(2) Azimuth Indicator IP-93/URD-4 has a self-contained power supply. Faulty components in the indicator, therefore, will not prevent operation of the receiver.

(3) Antenna AS-514/URD-4 must be rotated to obtain either the calibration or bearing pattern.

3. UNIT TROUBLE SHOOTING AND REPAIR.

a. TROUBLE SHOOTING.

WARNING

THE INDICATOR CONTAINS HIGH-VOLTAGE CIRCUITS. USE EXTREME CAUTION IN MAKING INTERIOR ADJUSTMENTS IN THE INDICATOR WITH THE POWER ON.

(1) TROUBLE-SHOOTING PROCEDURE.—While normal operation is from the indicator, controls are available on the receiver which allow operation of the direction finder set from the receiver position for ease in performing maintenance. Figure 7-2 illustrates the maintenance controls of the receiver group. Set LOCAL-REMOTE switch (3) and LOCAL-OFF-REMOTE switch (9) to LOCAL if operation from the receiver is desired. Channel frequency can be selected by digit selector switches (5, 6, 7, and 8). Audio modulation can be monitored by a headset plugged into PHONES jack (10).

The receiver consists of three units—r-f head, monitor, and i-f video-audio chassis. Each of these units may be removed from the receiver frame and be reconnected back into the receiver by means of patch cables supplied; if desired the entire receiver may be removed from the cabinet and be reconnected to the cabinet by a patch cable. Patch cable connections permit ready substitution of suspect units; they also allow quick access to the units for the purpose of adjustments during periods of operation. See figure 7-60 for patch cable connections. Table 7-1 lists the patch cables and their use.

Test equipment required to maintain Direction Finder Set AN/URD-4 is listed in table 7-2. Radio Test Set TS-777/URD-4 is a special test set for checking the direction finder set. Table 7-3 lists data for the use of the test set as a means of rapidly checking the direction finder set. Additional information for the use of the test set is contained in tables 7-6, 7-7, and 7-8. Features of the test set are illustrated in figure 7-3.

(2) TROUBLE-SHOOTING CHART.—Table 7-4 and table 7-5, trouble-shooting charts, list items to be checked and possible sources of trouble. The use of the servicing block diagram (figure 7-33), in conjunction with tables 7-4 and 7-5, will expedite trouble-shooting procedures.

(3) CIRCUIT CONSTANTS.—The relative locations of all circuit components, identified as to their circuit symbol, are illustrated in figures 7-4, 7-5, and 7-8 to 7-13, inclusive. Voltage and resistance measurements from all tube socket pins to ground are listed in figures 7-62 to 7-66, inclusive.

b. REPAIR.

(1) ELECTRICAL ADJUSTMENTS.

(*a*) POWER SUPPLY PP-556/URD-4.

1. TRANSFORMER T703 ADJUSTMENT.—Transformer T703 has a multi-tap secondary to provide a choice of connections to selenium rectifier CR701. The taps are necessary to compensate for the drop in output voltage from CR701 after the equipment has been in service for some time. If a 30-volt d-c output cannot be obtained from CR701, change the lead on terminal board TB701 to obtain an increase in voltage. Figure 7-6 illustrates the voltage outputs obtainable from the various taps. Low output from CR701 is characterized by inability of relays to operate.

2. VOLTAGE ADJUSTMENT.—Adjust the power supply voltage as follows:

a. Insert eleven-pin probe of Radio Test Set TS-777/URD-4 (test set) into jack J703. (See figure 5-3.) Set meter selector switch of test set to position 3.

b. Adjust VOLTAGE ADJUST (figure

FAILURE REPORTS

A FAILURE REPORT must be filled out for the failure of any part of the equipment whether caused by defective or worn parts, improper operation, or external influences. It should be made on Failure Report, form DD 787, which has been designed to simplify this requirement. The card must be filled out and forwarded to BUSHIPS. Full instructions are to be found on each card.

Use great care in filling the card out to make certain it carries adequate information. For example under "Circuit Symbol" use the proper circuit identification taken from the schematic drawings, such as T—803, in the case of a transformer, or R—207, for a resistor. Do not substitute brevity for clarity. Use the back of the card to completely describe the cause of failure and attach an extra piece of paper if necessary.

The purpose of this report is to inform BUSHIPS of the cause and rate of failures. The information is used by the Bureau in the design of future equipment and in the maintenance of adequate supplies to keep the present equipment going. The cards you send in, together with those from hundreds of other ships, furnish a store of information permitting the Bureau to keep in touch with the performance of the equipment of your ship and all other ships of the Navy.

This report is not a requisition. You must request the replacement of parts through your Officer-in-Charge in the usual manner.

Make certain you have a supply of Failure Report cards and envelopes on board. They may be obtained from the nearest District Printing and Publication Office.

Figure 7-1. Failure Report

TABLE 7-1. PATCH CABLES

SYMBOL NO.	NAVY DESIGNATION	USE
W1206	CX-2358/U (3′8″)	For testing receiver, power supply, or indicator.
W1207	CX-2357/U (3′11″)	For testing monitor and r-f head.
W1208	CX-2356/U (3′10″)	For testing i-f video-audio chassis.
W1209	CG-1068/U (1′6″)	For testing r-f head when removed from receiver
W1210	CG-1068/U (3′0″)	For testing receiver when removed from receiver cabinet

TABLE 7-2. TEST EQUIPMENT REQUIRED FOR MAINTENANCE

TEST EQUIPMENT REQUIRED	NAVY DESIGNATION
Signal Generator	AN/URM-26 Series
Multimeter	ME-25/U Series
Electronic Voltmeter	ME-6/U Series
Electron Tube Test Set	AN/USM-31 Series, OD Series
Wattmeter	AN/URM-43 Series
*Radio Test Set	TS-777/URD-4

*Supplied with Direction Finder Set AN/URD-4.

7-11) for 67 divisions of the test set meter—an equivalent of 200 volts dc.

(*b*) RADIO RECEIVER R-353/URD-4.

1. MONITOR.—Table 7-6 lists alignment data for the monitor; figure 7-15 illustrates adjustment locations on the monitor.

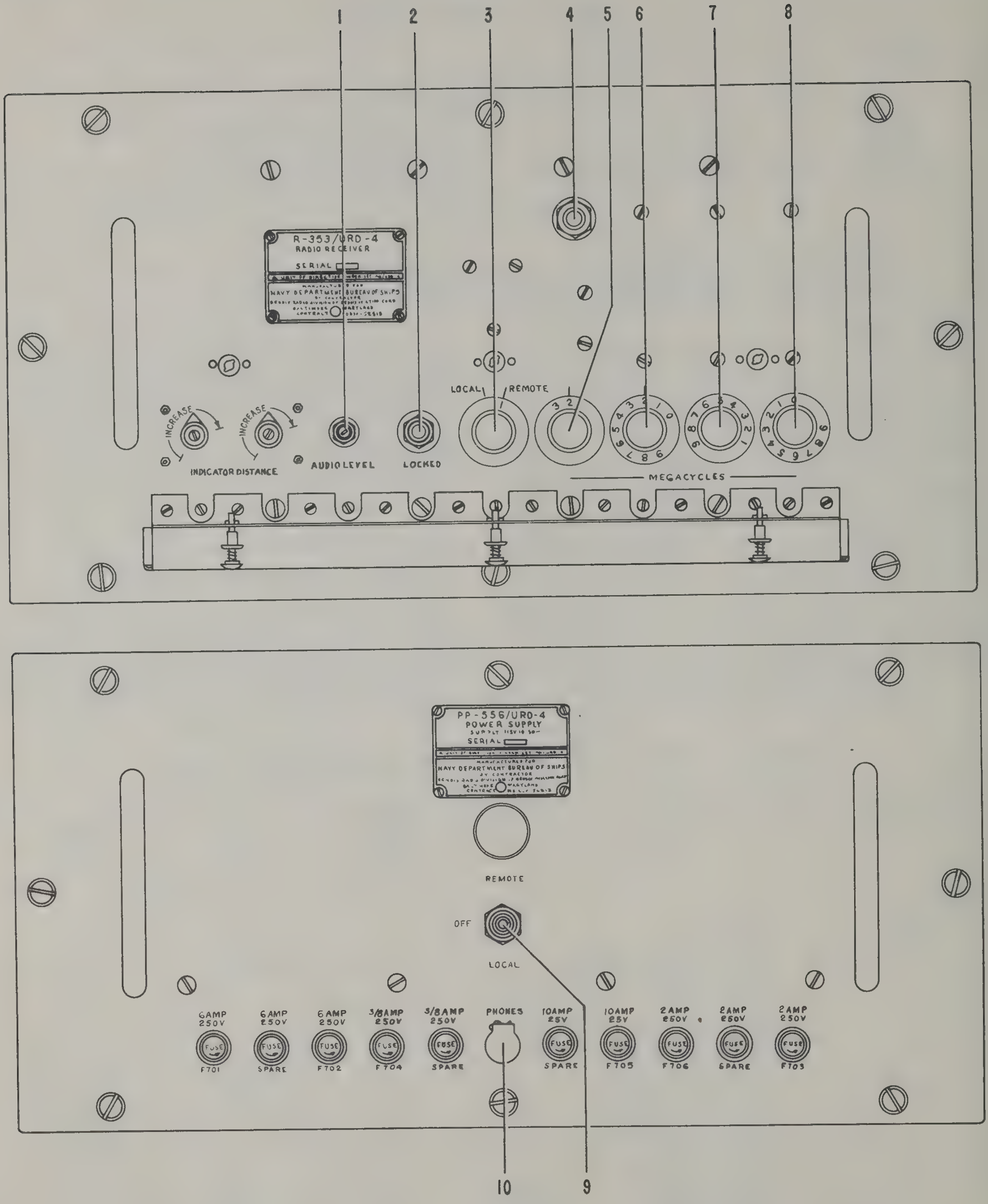
Under "Radio Receiver R-353/URD-4 Operating" section of table 7-6, the assumption is made that Radio Receiver R-353/URD-4 is in operating condition and under control of the automatic frequency control system. In cases where the monitor is so far misaligned as to prevent the tuning system from obtaining precisely the channel selected, proceed as follows:

a. Insert eleven-pin probe of Radio Test Set TS-777/URD-4 into test jack J402 (figure 5-5). Set test set selector switch to position nine.

b. Turn the tuning drive manual adjustment (figure 7-17) slowly to obtain a positive peak output of 25 to 50 divisions on the test set meter. Turning direction must be determined experimentally. The positive meter indication indicates the variable oscillator V202A lock-in position.

TABLE 7-3. RADIO TEST SET TS-777/URD-4 OPERATIONAL DATA

UNIT TESTED	CIRCUIT TESTED		METER SELECTOR SWITCH POSITION	ELEVEN PIN PROBE IN	DESIRED METER INDICATION
Receiver:					
I-F Video-Audio Chassis	Voltage		3	J302 (figure 5-7)	60-70
	Oscillator drive		4		min. of 30
	Video output (no signal)		9		66
	Audio output (for 100-mw output)		10		50
Monitor	Bridge balance		1	J402 (figure 5-5)	0
	Bridge balance		2		0
	Voltage		3		35
	1st crystal oscillator		4		min. of 50
	2nd crystal oscillator		5		min. of 40
	3rd crystal oscillator		6		min. of 40
	4th crystal oscillator		7		min. of 40
	Discriminator input		8		min. of 10
	Reactance circuit		9		min. of 30
	Discriminator test		11		min. of 25
R-F Head	Oscillator output mixer injection	399.9 mc	5	J204 (figure 5-6)	min. of 10
		225.0 mc	5		
	Oscillator output doubler injection	399.9 mc	4		25
		225.0 mc	4		15
Indicator	Voltage		3	J905 (figure 5-8)	92
	High voltage		7		min. of 33
	High voltage		9		min. of 33
Power Supply	Voltage		3	J703 (figure 5-3)	67
	Voltage		9		60



1 AUDIO LEVEL control
2 LOCKED lamp
3 LOCAL-REMOTE switch
4 RESET switch
5 First digit selector switch
6 Second digit selector switch
7 Third digit selector switch
8 Fourth digit selector switch
9 LOCAL-OFF-REMOTE switch
10 PHONES jack

Figure 7-2. Receiver Group OA-485/URD-4, Maintenance Controls

When the monitor is completely misaligned and the automatic frequency control system therefore is inoperative, utilize the portion of table 7-6 under "Radio Receiver R-353/URD-4 Not Operating". Set the signal generator output to 0.3 volt. More signal output may be used initially if required to obtain usable readings. Final alignment should be made with signal output of 0.3 volt.

The alignment of the monitor does not require resetting of the monitor crystal circuits, for such settings are factory performed and rarely require additional attention in the field. If certain crystal circuits do deviate from frequency, receiver distortion will result on those channels associated with the malfunctioning crystal circuits. Table 7-7 lists data for checking the crystal circuits of the monitor. Replace crystals that do not produce desired readings.

2. I-F VIDEO - AUDIO CHASSIS.—Table 7-8 lists alignment data for the i-f video - audio chassis, while figure 7-16 illustrates adjustment locations of the i-f video - audio chassis. Remove the coupling cable between the r-f head and the i-f video - audio chassis. Connect a signal generator, and proceed to align the i-f video - audio chassis as indicated in table 7-8, to jack J301.

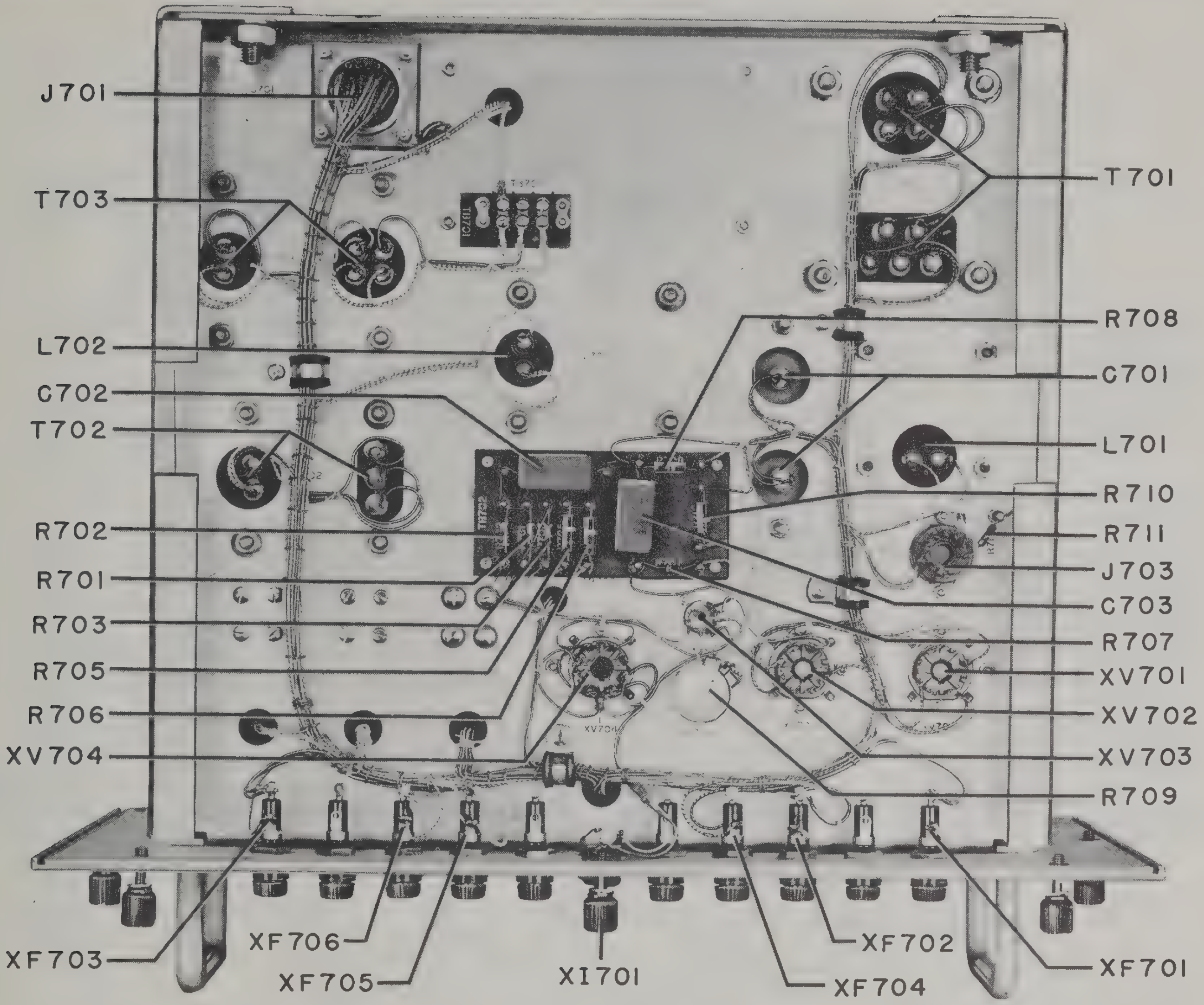


Figure 7-5. Power Supply PP-556/URD-4, Components Location

L212, L213, L214 for maximum as indicated on voltmeter.

k. With test set selector switch in position 5, adjust inductor L210 for maximum as indicated on test set meter.

l. Repeat steps h. to k. inclusive to obtain a refinement of adjustments.

m. Remove signal generator from jack J201 and reconnect cable W601.

n. Set signal generator to 15.325 megacycles and apply its signal to pin 5 of tube socket XV206 through a ten-micromicrofarad capacitor. Adjust signal generator output, modulated 30 per cent at 1000 cycles, for approximately five volts dc as indicated on voltmeter.

o. Adjust capacitor-trimmers of Z201 and Z202 for maximum indication on voltmeter. Reduce signal generator output to keep reading of voltmeter about midscale.

(*c*) AZIMUTH INDICATOR IP-93/URD-4.—

High voltage rectifier V926 filament leads, attached to terminals 6 and 7 of transformer T903, require precise dress. Avoid rearrangement of these leads if possible in performing maintenance in the indicator. Where the circuit is critical, as perhaps indicated by reduced high voltage, or where lead removal has been required, replace the leads as follows: cut two leads each three inches long (including their stripped ends) and interwind the leads before soldering them into place.

Figure 7-18 illustrates indicator adjustment locations. Align the indicator as follows:

1. Connect the eleven-pin probe of the test set to jack J905. (See figure 5-8.) Set meter selector switch of the test set to position 3.

2. Adjust VOLTAGE ADJUST control for 92 divisions on test set meter.

TABLE 7-6. MONITOR ALIGNMENT DATA

RADIO RECEIVER R-353/URD-4 OPERATING

CIRCUIT	RADIO TEST SET TS-777/URD-4 SEVEN-PIN PROBE IN	ELEVEN-PIN PROBE IN	SELECTOR SWITCH POSITION	CHANNEL FREQUENCY (MC)	TUNE (See figure 7-15)	DESIRED METER INDICATION
Frequency Multiplier	XV404			315.0	L401 Z402 P & S	Maximum
Harmonic Generator		J402 (figure 5-5)	8	315.0 295.0	Z401 P & S C420 & C427	Maximum
12.0-12.9 mc Bandpass Filter			8	295.0 290.0 299.9	Z403 L Z404 P Z404 S	Maximum Tune P and S of Z404 to equal indications.
20.3-21.3 mc Bandpass Filter			8	315.0	Z403 H	Maximum
8.8-9.0 mc Bandpass Filter			8	295.0	Z405 P & S	Maximum
5.1-5.2 mc Bandpass Filter			8	295.0	Z406 P & S	Maximum
29.1-mc trap			11	344.5	L412	Minimum
4th Crystal Oscillator			11		Z407 P & S	Maximum

RADIO RECEIVER R-353/URD-4 NOT OPERATING

CIRCUIT	RADIO TEST SET TS-777/URD-4 SEVEN-PIN PROBE IN	ELEVEN-PIN PROBE IN	SELECTOR SWITCH POSITION	CHANNEL FREQUENCY (mc)	SIGNAL GENERATOR FREQUENCY (mc) AT J401 (See figure 7-15.)	TUNE (See figure 7-15.)	DESIRED METER INDICATION
Frequency multiplier	XV404					L401 Z402 P & S	Maximum
Harmonic Generator	XV404			315.0 295.0	24.973 23.306	Z401 P & S C420 and C427	Maximum
12.0-12.9-mc Bandpass Filter	XV404 XV405 XV405			295.0 290.0 299.0	23.306 12.056 12.881	Z403L Z404P Z404S	Maximum
20.3-21.3-mc Bandpass Filter		J402 (figure 5-5)	8	315.0	24.973	Z403H	Maximum
8.89-9-mc Bandpass Filter			8	295.0	23.306	Z405 P & S	Maximum
5.1-5.2-mc Bandpass Filter			8	295.0	23.306	Z406 P & S	Maximum
29.1-mc trap			8	344.5	29.143	L412	Minimum
4th crystal Oscillator			11			Z407 P & S	Maximum

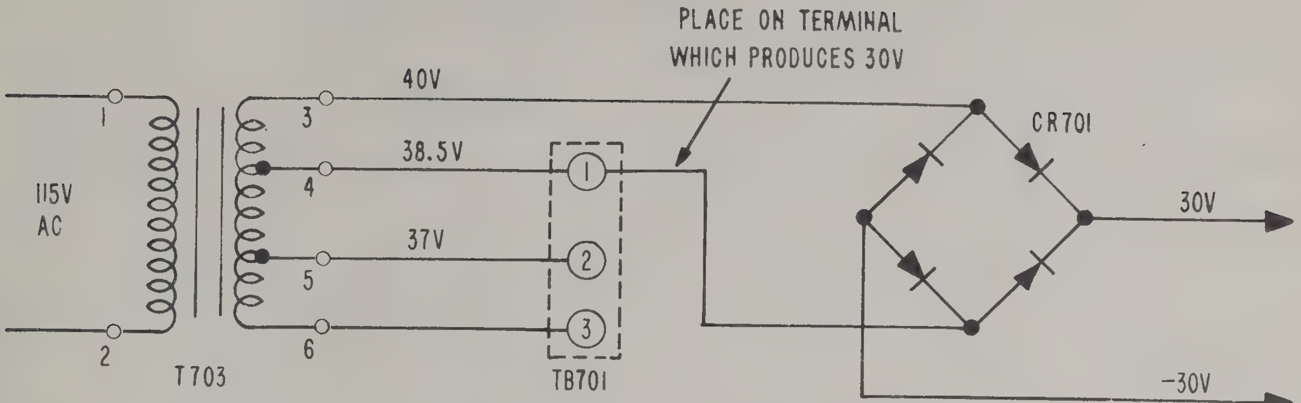


Figure 7-6. Transformer T703, Tap Voltages

WARNING

THE SLOTTED CAPACITOR-TRIMMER SHAFTS CARRY HIGH VOLTAGE. USE THE INSULATED TUNING WRENCH (FIGURE 7-19) SUPPLIED OR A NON-METALLIC SCREWDRIVER TO MAKE ADJUSTMENTS ON THESE SHAFTS.

3. Set all screwdriver and push-to-turn controls on indicator to their mid-points. Set VERTical and HORIZontal controls (2 and 3, figure 4-1) to their mid-point settings. Set capacitors C905, C912 and C940 to their mid-point settings.

4. Set CALIBRATE-SENSE switch (17) to center position.

5. Adjust capacitor C934 for maximum deflection of pattern to left side of cathode-ray tube.

6. Adjust capacitor C936 for maximum deflection of pattern to right side of cathode-ray tube.

7. Adjust capacitor C938 for maximum deflection of pattern toward bottom of cathode-ray tube.

8. Adjust capacitor C940 for maximum deflection of pattern toward top of cathode-ray tube.

9. Adjust capacitor C912 for maximum circle diameter.

TABLE 7-7. MONITOR CRYSTAL CIRCUITS CHECK

CRYSTAL OSCILLATOR CIRCUIT	CRYSTAL	DIGIT SELECTOR SWITCH SETTING				RADIO TEST SET TS-777/URD-4		PUT TO GROUND
		1	2	3	4	SELECTOR SWITCH POSITION	DESIRED METER INDICATION	
1st	Y401					4	Minimum of 50	
2nd	Y403			0,1		5	*40-100	Pin 3 of XV406
	Y402			2,3				
	Y406			4,5				
	Y405			6,7				
	Y404			8,9				
3rd	Y411			0	0,1	6	*40-100	Pin 7 of XV406
	Y410				2,3			
	Y409				4,5			
	Y408				6,7			
	Y407				8,9			
	Y416			1	0,1	6	*40-100	Pin 7 of XV406
	Y415				2,3			
	Y414				4,5			
	Y413				6,7			
	Y412				8,9			
4th	Y417				1,3 5,7 9	7	*25-100	Pin 3 of XV406
	Y418				0,2 4,6 8			

*Tune for minimum-maximum center.

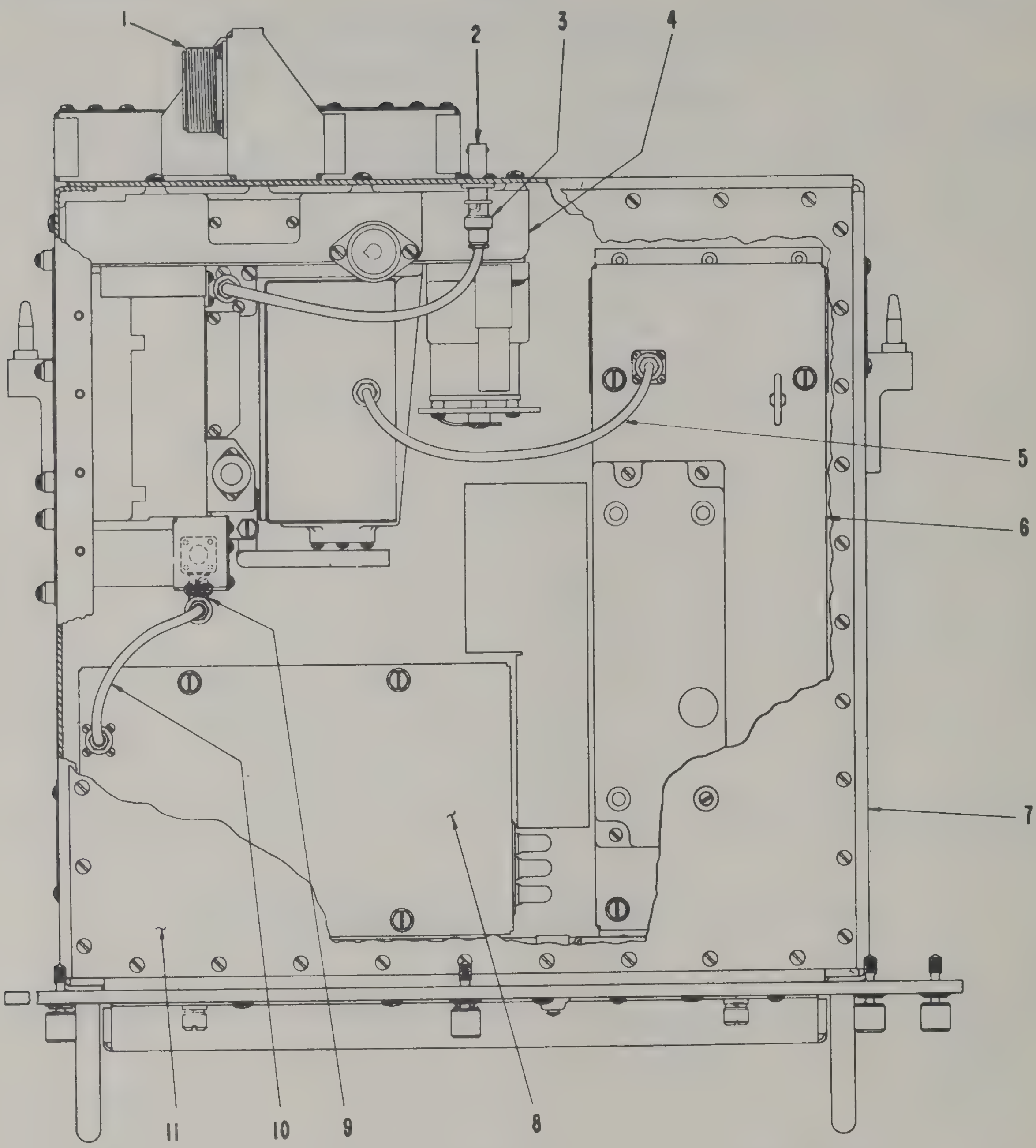
TABLE 7-8. I-F VIDEO - AUDIO CHASSIS ALIGNMENT DATA

RADIO TEST SET TS-777/URD-4		SIGNAL GENERATOR INPUT TO J301	TUNE TO MAXIMUM (SEE FIGURE 7-16)
ELEVEN-PIN PROBE IN	SELECTOR SWITCH POSITION		
J302 (figure 5-7)	9	15.325 mc	Z301 Z305 P & S
		15.351 mc	Z302 S Z303 S Z304 S
		15.299 mc	Z302 P Z303 P Z304 P
		15.325 mc	Z306

(*d*) PERFORMANCE CHARACTERISTICS.—Performance of the direction finder set as to selectivity, audio response, and automatic gain control is indicated by curves illustrated in figures 7-68, 7-69, and 7-70, respectively.

1. RECEIVER SENSITIVITY.—Performance of the receiver may be checked by running a receiver sensitivity check. Check for the sensitivity of the receiver as follows:

a. Remove cable W1201 from jack J801A on the receiver cabinet. Connect a signal generator (AN/URM-26 Series or equivalent) to jack J801A.



1 Jack J602
2 Jack J601A
3 Cable W801
4 R-f head
5 Cable W603
6 Monitor
7 Receiver frame
8 I-f video-audio chassis
9 Adapter (UG-306/U type)
10 Cable W602
11 Cover

Figure 7-7. Receiver R-353/URD-4, Subunits Location

Connect an electronic voltmeter (ME-6/U Series or equivalent) to test jack J302 (figure 5-7), positive lead to pin 1, negative lead to pin 9.

b. Tune receiver to 225.0 megacycles. Set signal generator to 225.0 megacycles, modulated 30 per cent at 1000 cycles. Precise setting of the signal generator will be indicated by a maximum indication on the voltmeter.

c. Adjust RF GAIN control (18, figure 4-1) to maximum. Adjust signal generator attenuator to produce 5.5 volts on the voltmeter. Note the attenuator setting.

d. Tune receiver and signal generator to 300 megacycles and 399.9 megacycles, repeating step c. at each frequency.

e. The signal generator attenuator reading

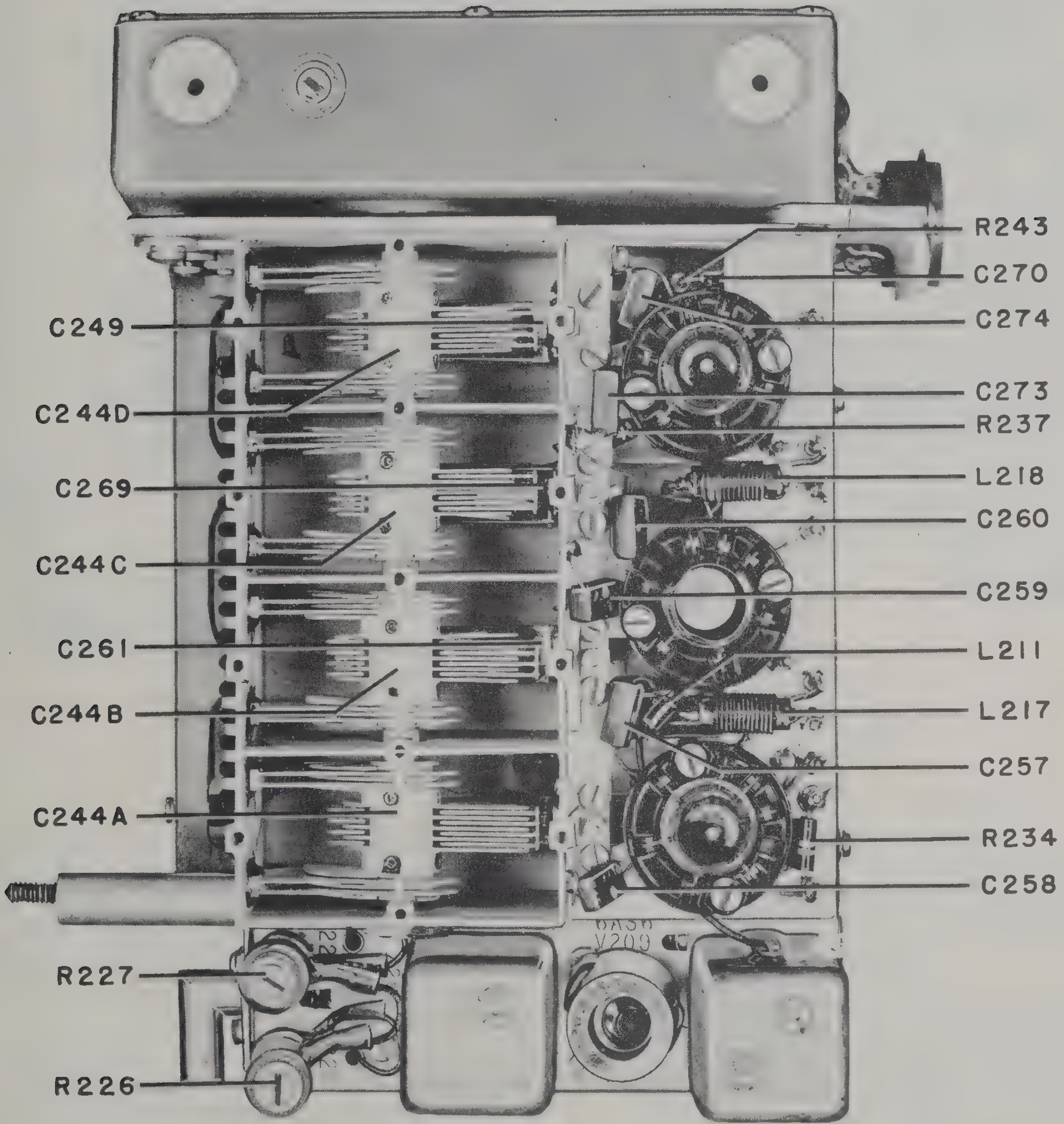


Figure 7-11. R-F Head, Components Location (Sheet 2)

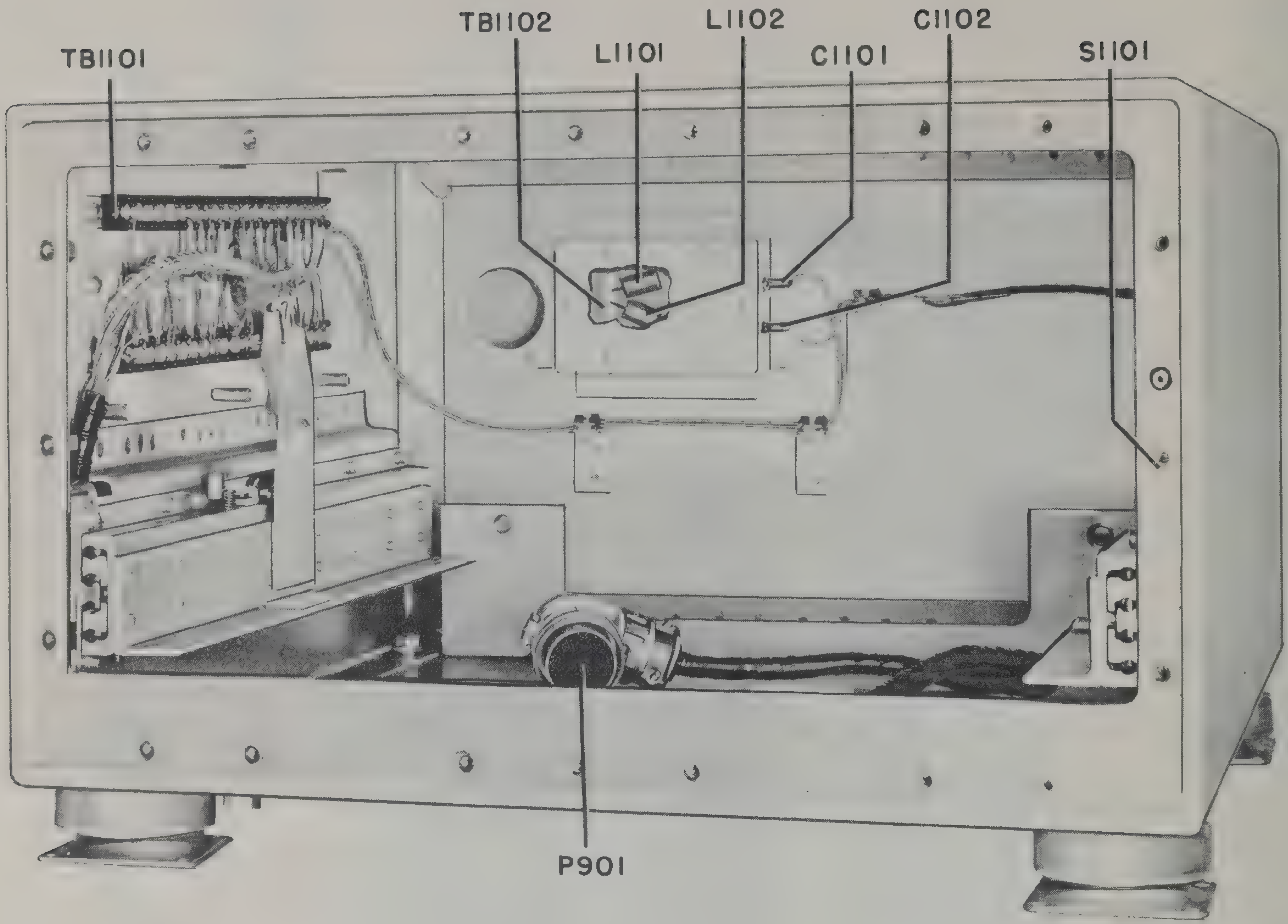


Figure 7-12. Electrical Equipment Cabinet CY-1304/URD-4, Components Location

obtained by reversing ohmmeter leads, should read approximately 700,000 ohms. If these approximate readings are not obtained, replace crystal CR1303.

(2) MECHANICAL ADJUSTMENTS.

Note

BRISTO WRENCHES ARE LOCATED IN ANTENNA, RECEIVER, AND INDICATOR INTERIORS. THEY ARE INTENDED TO FACILITATE REMOVAL AND DISASSEMBLY OF COMPONENTS.

(*a*) REMOVAL AND REPAIR.

1. ANTENNA AS-514/URD-4.

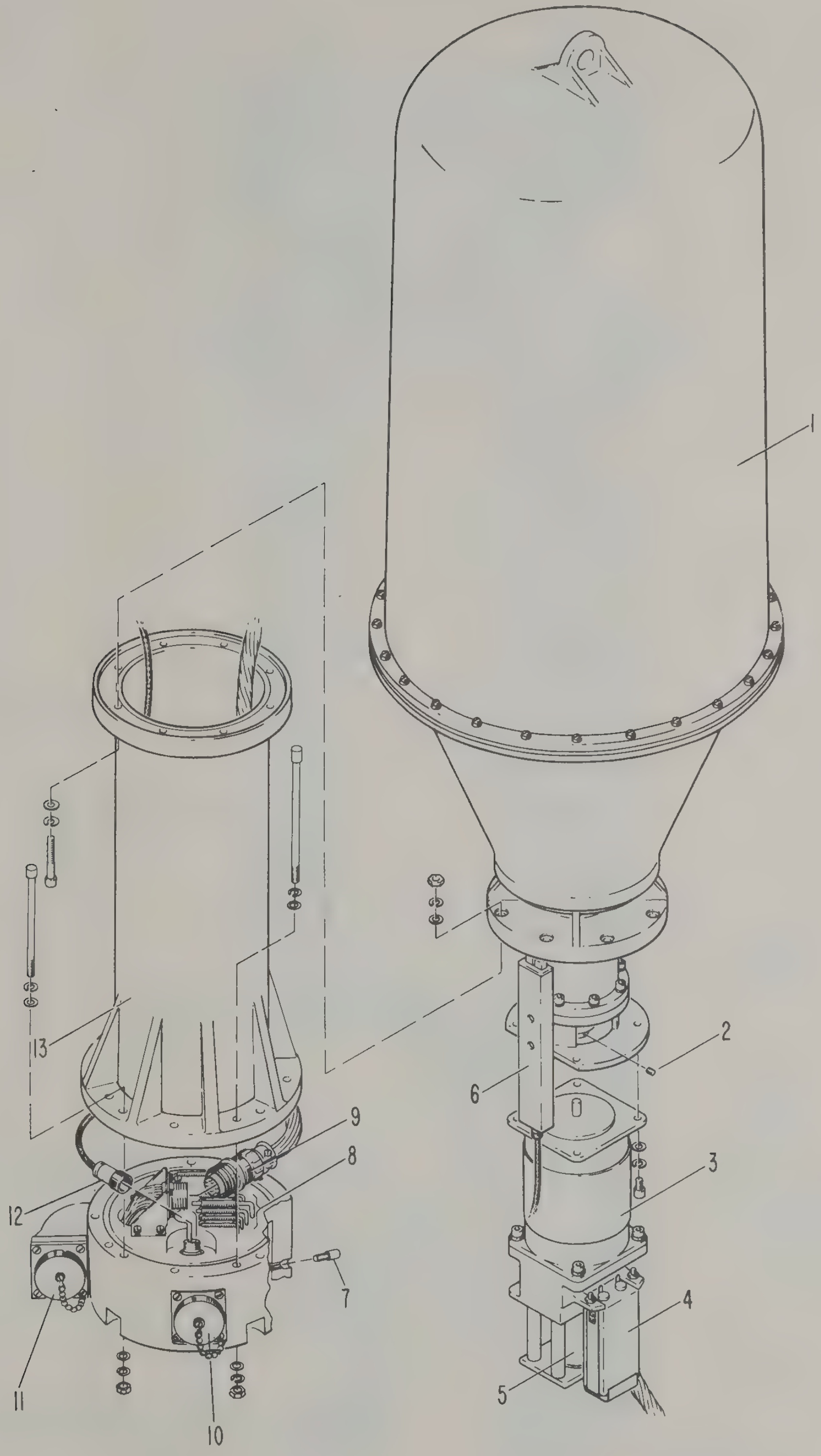
a. ANTENNA DISASSEMBLY.—Antenna disassembly is illustrated in figure 7-20. Figure 7-71, illustrating the mechanical assembly of the antenna, may be used in conjunction with figure 7-20. With figure 7-20 as reference, antenna disassembly is as follows:

(*1*) Disconnect the two cables W1201 and W1202 attached to the antenna. Support the antenna by means of the eye pad atop the antenna radome and remove the eight screws holding the antenna base to the mast or platform. Lower the antenna to the floor, allowing its length to rest upon the floor.

(*2*) The radome (1) may be removed by withdrawing the twenty-four screws holding the radome to the antenna housing. There is no need to remove the radome unless access to the dipoles and the sense relay is desired.

(*3*) Disconnect plugs P102 (9) and P101A (12). Separate the base from the housing (13) by removal of the four hexagon cap screws holding the two items together.

(*4*) Separate the housing from radome support by removing the eight hexagon cap screws holding the two items together.



1 Radome A105	8 Wrenches
2 Setscrew	9 Plug P102
3 Antenna drive motor B101	10 Jack J101B
4 Capacitor C103	11 Jack J103
5 Alternator G101	12 Plug P101A
6 R-F Transmission line T101	13 Housing A103
7 Drain plug H104	

Figure 7-20. Antenna AS-514/URD-4, Disassembly

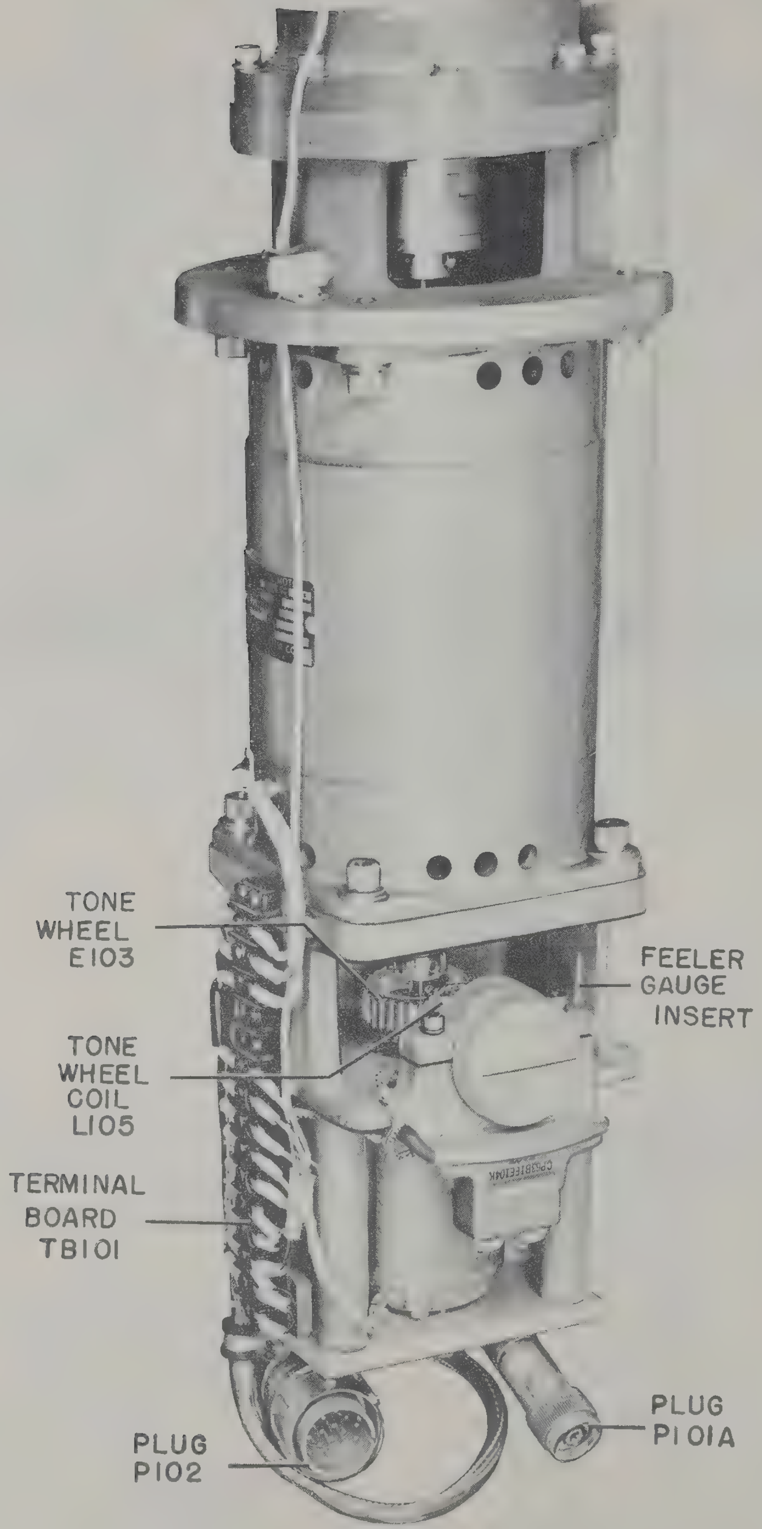
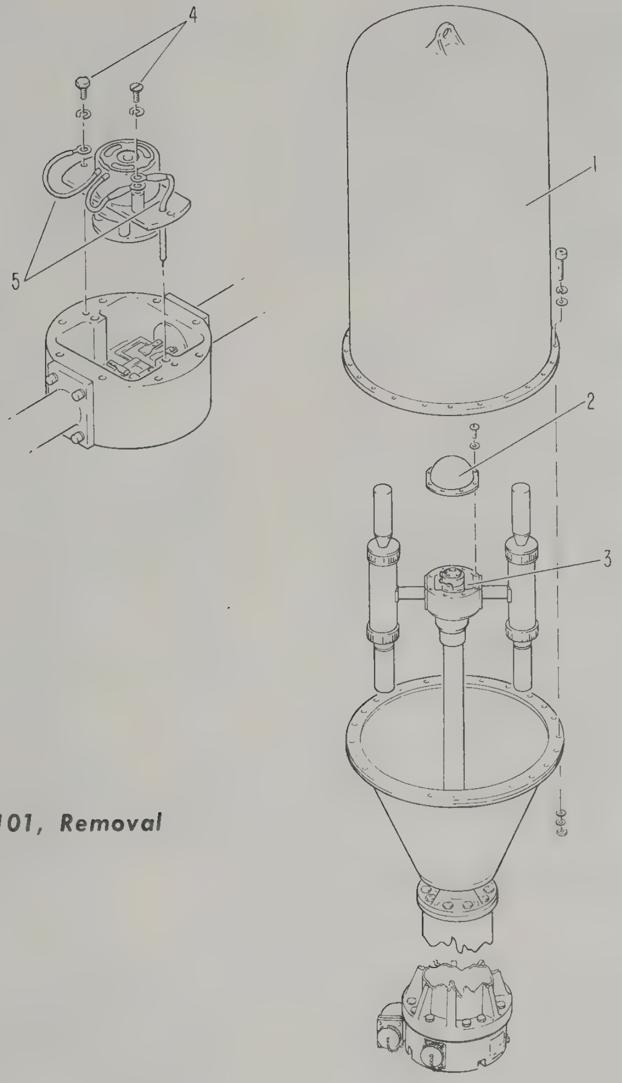


Figure 7-21. Antenna AS-514/URD-4, Tone Wheel Coil L105 Adjustment



1 Radome A105
2 Cover 0122
3 Sense Relay K101
4 Screws
5 Leads

Figure 7-22. Sense Relay K101, Removal

(*1*) CRYSTAL IN LOKTAL-BASE CRYSTAL OVEN E401.—Figure 7-24 illustrates crystal replacement in the loktal-base crystal oven E401. Replace the crystal as follows:

(a) Remove crystal oven E401 from the loktal-base socket XE401 on bottom of the monitor. (See figure 7-10.)

(b) Remove the four cover screws (6) in base of oven and lift oven cover (1) from loktal base (5).

(c) Remove oven heater element (2) by loosening the two small heater mounting screws (7) on either side of heater. Pull heater away from crystal holder (3).

(d) Pull crystal holder out of socket (4). The quartz crystal is sealed within the crystal holder; a defective crystal is replaced complete with holder.

(e) Substitute a new crystal holder in the crystal holder socket (4).

(f) Replace oven heater element and fasten into place.

(g) Replace oven cover (1) and fasten to loktal base (5).

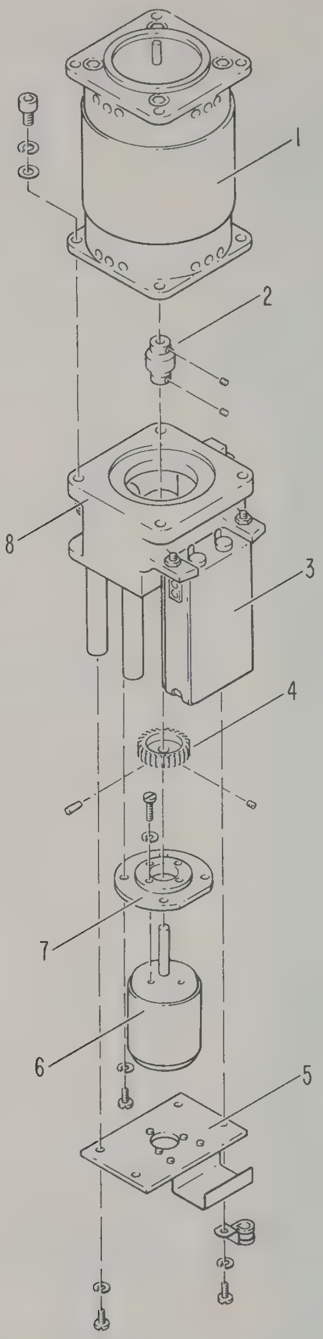
(h) Insert crystal oven E401 into loktal base socket XE401.

(2) CRYSTALS IN MULTIPLE OVENS.

CAUTION

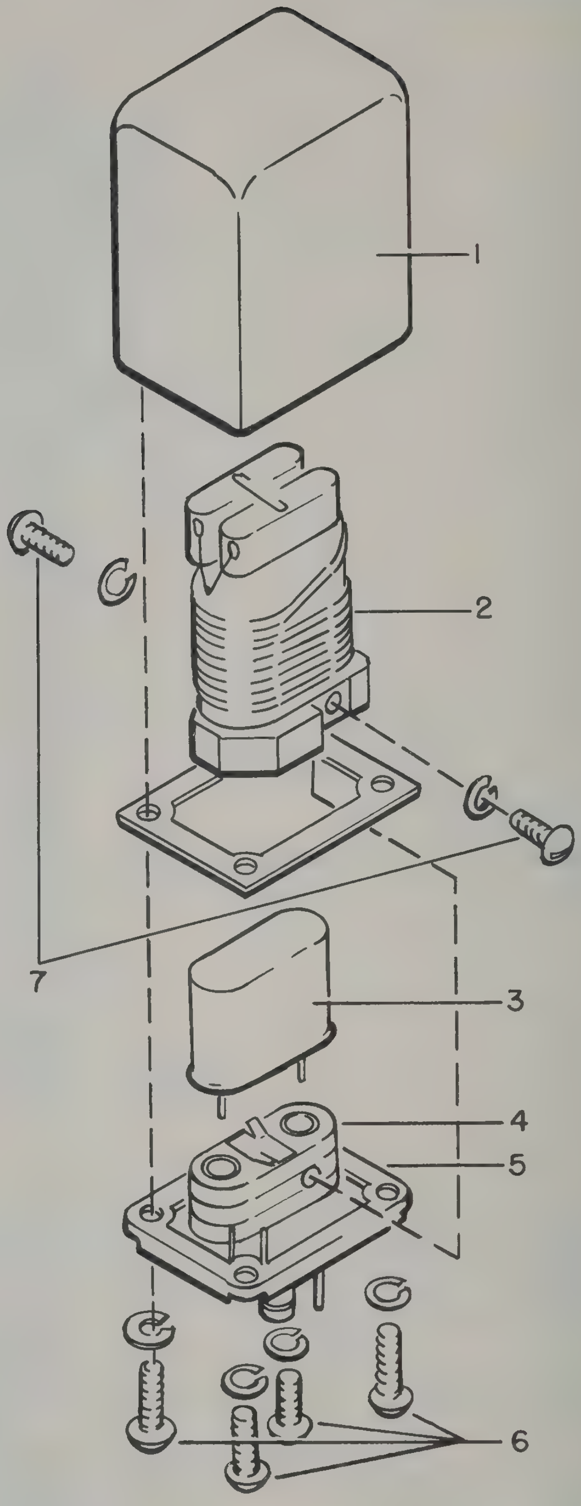
DO NOT USE SOLVENTS OF ANY KIND TO CLEAN INTERIOR OF MULTIPLE OVENS; DAMAGE TO TRIMMER CAPACITORS MAY RESULT. A SMALL SOFT BRUSH WILL SUFFICE TO CLEAN ANY DIRT FOUND BENEATH OVEN COVERS.

Figure 7-25 illustrates crystal replacement in multiple ovens E402 or E403. Replace crystals as follows:



1 Antenna drive motor B101
2 Coupling
3 Capacitor C103
4 Tone wheel E103
5 Mounting plate
6 Alternator G10
7 Flange
8 Mounting base

Figure 7-23. Antenna Drive Disassembly



1 Oven cover
2 Oven heater element
3 Crystal holder
4 Crystal holder socket
5 Loktal base
6 Cover screws
7 Heater mounting screws

Figure 7-24. Crystal Replacement in Loktal Base Crystal Oven E401

(a) Remove two cover mounting screws (1) holding oven cover (2). Lift cover away.

(b) Push aside the two spring clips (12) at either end of heater element (4). Remove heater element.

(c) The crystal holders (5), with their sealed-in crystals identified by the symbol numbers on them, are now accessible for removal and replacement. Refer to figure 7-46 for crystal positions within the ovens.

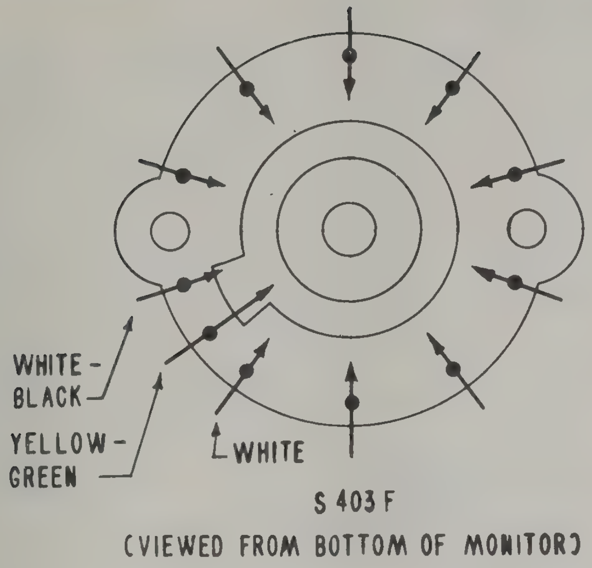


Figure 7-27. Setting Selector Switch S403

switch setting by selecting channels with the following first and second digits:

20 through 29
30 through 39

In each case, the monitor should stop on channel, wiper contact should engage a single blade, and the selector motor B401 should be at rest.

3. R-F HEAD.—

Note

DISASSEMBLY AND REPLACEMENT OF THE THREE-GANG R-F SECTION OR RECEIVER CAVITY ASSEMBLY OF THE R-F HEAD NECESSITATES REALIGNMENT OF THE R-F HEAD. R-F HEAD ALIGNMENT IS OUTLINED IN SECTION 7, PARAGRAPH 3*b*(1)(*b*)3.

The r-f head consists of, basically, a switch assembly (containing switches S202, S203), a three-gang r-f section, and a receiver cavity assembly—all mounted upon a gear box. Disassembly of the r-f head involves disengagement of these subunits from the tuning drive in the gear box and removal of numerous leads from between the same subunits. Disassemble the r-f head only if such a need is imperative for continuous operation of the equipment. Figure 7-28 illustrates r-f head disassembly.

a. R-F HEAD SUBUNITS.

Note

THE THREE SUBUNITS—SWITCH ASSEMBLY, THREE-GANG R-F SECTION, AND RECEIVER CAVITY—ALL HAVE SHAFTS EXTENDING INTO THE GEARBOX (7, FIGURE 7-28) AND COUPLED TO GEAR ASSEMBLIES. THE GEAR ASSEMBLIES IN TURN, MESH WITH THE MAIN SHAFT ASSEMBLY (16, FIGURE 7-29) OF THE R-F HEAD TUNING DRIVE. TO REMOVE A SUBUNIT FIRST REMOVE THE GEAR ASSEMBLY FROM THE SUBUNIT SHAFT. EACH GEAR ASSEMBLY IS HELD IN PLACE ON ITS ASSOCIATED SHAFT BY TWO SETSCREWS.

(*1*) SWITCH ASSEMBLY.—Remove and replace switch assembly as follows:

(a) Remove the r-f head from the receiver. Remove all leads connected to the switch assembly (8, figure 7-28).

(b) Remove the switch assembly mounting screws (9) and pull the switch assembly away from the gear box.

(c) Refer to figure 7-41 for information on rewiring the replacement switch assembly.

(*2*) R-F SECTION-THREE GANG.—Remove and replace the r-f head section-three gang as follows:

(a) Remove all leads connected to r-f section-three gang (10, figure 7-28).

(b) Remove r-f section-three gang mounting screws (11) and pull unit away from gear box.

(c) Refer to figure 7-38 for information on rewiring the replacement r-f section-three gang.

(*3*) RECEIVER CAVITY ASSEMBLY.—Remove and replace the receiver cavity assembly as follows:

(a) Remove all leads connected to the receiver cavity assembly (1, figure 7-28).

(b) Remove receiver cavity assembly mounting screws (13) and handle mounting screws (3).

(c) Pull receiver cavity assembly away from gear box.

(d) The i-f chassis (12) can be removed from the receiver cavity assembly by withdrawal of i-f chassis mounting screws (2).

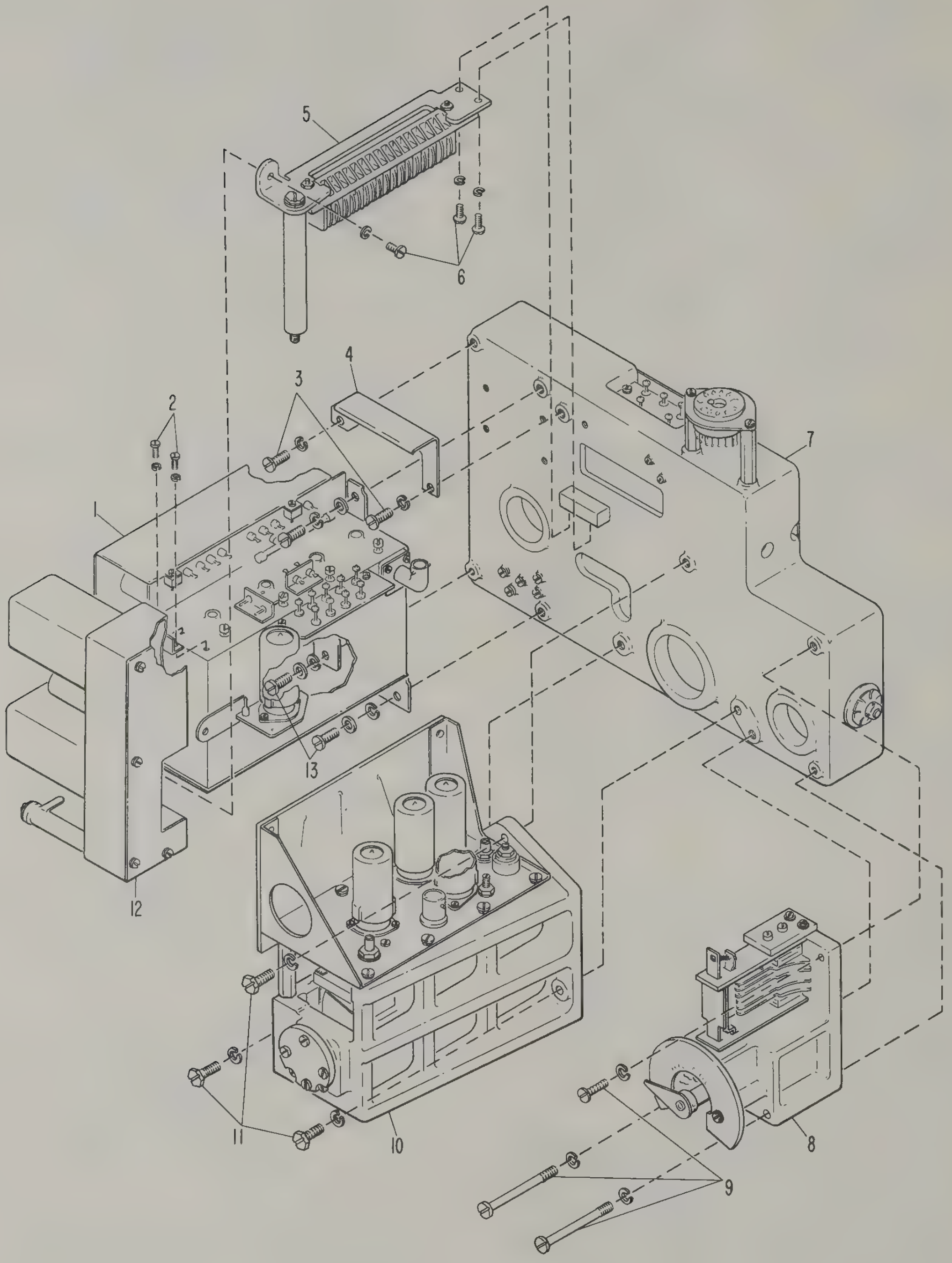
(e) Plug P603 (5) can be removed from the receiver cavity assembly by removal of plug P603 mounting screws (6).

(f) Refer to figure 7-42 for information on rewiring the replacement receiver cavity assembly.

b. TUNING DRIVE COMPONENTS.—

Note

REMOVAL AND REPLACEMENT OF THE MAIN SHAFT ASSEMBLY OF THE TUN-



1 Receiver cavity assembly
2 I-F chassis mounting screws
3 Handle mounting screws
4 Handle
5 Plug P603
6 Plug P603 mounting screws
7 Gear box
8 Switch assembly (contains switches S202, S203)
9 Switch assembly mounting screws
10 R-F section - 3 gang
11 R-F section - 3 gang mounting screws
12 I-F chassis
13 Receiver cavity assembly mounting screws

Figure 7-28. R-F Head Disassembly

TABLE 7-9. TUBE OPERATING VOLTAGES* (Continued)

SYMBOL NO.	TUBE TYPE	FUNCTION	PLATE (E)	SCREEN (E)	SUPP. (E)	CATH. (E)	GRID (E)	HEATER (E) A-C
V405	6AS6	3rd mixer	195	120	0.05	2.45	0	6.3
V406	5670	2nd oscillator 3rd oscillator	102 102			0.05 0.05	−0.15 −0.15	6.3
V407	6AS6	4th mixer	192	122	0.05	9.5	0	6.3
V408	5670	Clutch control	200 −0.45			0 −0.45	−7.2 −0.45	6.3
V409	5726/6AL5W	Discriminator	−25.2 −2.4			4.8 0		6.3
V410	5670	4th oscillator Cathode follower	105 194			0.05 5.6	−4.8 0	6.3
V411	5670	Motor control	123 123			10.2 10.2	8.0 5.3	6.3
V701	5R4WGY	Rectifier	450 ac 450 ac			350 350		5.0
V702	0C3W	Regulator	107			0		
V703	6AS6	Regulator-amplifier	165	292	107	107	100	6.3
V704	6AS7G	Regulator	330			200	165	6.3
V901	5670	Calibration Phase splitter follower	110 145			6.8 3.8	0.37 0	6.3
V902	5670	Video differential Amplifier	87 70			18 17	17 16	6.3
V903	6AS6	Carrier oscillator	150	150	−2.1	4.6	0	6.3
V904	6AS6	First modulator	150	80	−1.2	2.5	0	6.3
V905	5670	Modulator amplifier Follower	140 145			3.0 2.65	0 0	6.3
V906	6AS6	Horizontal modulator	150	80	0.7	3.5	1.6	6.3
V907	6AS6	Horizontal modulator	150	80	0.9	3.8	1.6	6.3
V908	6AS6	Vertical modulator	150	80	1.2	4.2	1.6	6.3
V909	6AS6	Vertical modulator	150	80	1.0	3.9	1.6	6.3
V910	5726/6AL5W	Horizontal rectifier	−42 −42			−35 −35		6.3
V911	5726/6AL5W	Vertical rectifier	−44 −44			−37.5 −37.5		6.3
V912	5670	Horizontal amplifier	−0.4 0			−80 −80	−55 −53	6.3
V913	5670	Vertical amplifier	−2.05 −1.65			−80 −77	−58 −55	6.3
V914	5670	Horizontal amplifier	130 125			−70 −70	−56 −56	6.3

*All readings taken with meter having sensitivity of 20,000 ohms per volt (AN/PSM-4 or TS-352/U), chassis ground.

TABLE 7-9. TUBE OPERATING VOLTAGES* (Continued)

SYMBOL NO.	TUBE TYPE	FUNCTION	PLATE (E)	SCREEN (E)	SUPP. (E)	CATH. (E)	GRID (E)	HEATER (E) A-C
V915	5670	Vertical amplifier	133 135			–73 –73	–59 –58	6.3
V917	5R4WGY	Rectifier	540 ac 540 ac			460 460		5.0
V918	6X4W	Rectifier bias supply	–420			330 ac		6.3
V919	0A2	Regulator	150			0		
V920	0A3	Regulator	150			80		
V921	0A2	Regulator	0			–145		
V922	6AS7G	Regulator	450			275	190	6.3
V923	6AS6	Regulator-amplifier	190	128	0	0	–4.0	6.3
V924	5651	Regulator	87			0		
V925	6L6WGB	High voltage oscillator	270	180	0	0	–70	6.3

*All readings taken with meter having sensitivity of 20,000 ohms per volt (AN/PSM-4 or TS-352/U), chassis ground.

2. Crystals Y401 to Y418, inclusive, are ground to tolerance of plus or minus 0.002 per cent for operating temperature of 75°C (167°F). Crystal Y301 is ground to tolerance of plus or minus 0.005 per cent for operating temperatures ranging from —55°C (—67°F) to 90°C (194°F).

3. Crystal circuits for the monitor are schematically illustrated in figure 7-46; the crystal circuit in the i-f video-audio chassis is illustrated schematically in figure 7-49.

4. Crystal holder - 3/4-inch Type HC-6/U.

5. CRYSTAL OVEN OPERATING TEMPERATURES.

a. Single crystal oven—68°C to 81°C (154.4°F to 177.8°F).

b. Multiple crystal oven—65°C to 81°C (149°F to 177.8°F).

(*c*) WINDING DATA.—Table 7-12 lists winding data for wirewound units of the direction finder set.

TABLE 7-10. RATED TUBE CHARACTERISTICS

TUBE TYPE	FILAMENT VOLTAGE (V)	FILAMENT CURRENT (A)	PLATE VOLTAGE (V)	GRID BIAS (V)	SCREEN VOLTAGE (V)	PLATE CURRENT (MA)	SCREEN CURRENT (MA)	A-C PLATE RESISTANCE (OHMS)	VOLTAGE AMPLIFICATION FACTOR (MU)	TRANSCONDUCTANCE (MICROMHOS)
1Z2	1.5	0.300	7800							
5CP12	6.3	0.6	1-4000 2-2000	200						
5R4WGY	5.0	2.0	750			250				
6AS6	6.3	0.175	120	−2.0	120	5.2	3.5	150,000		3200
6AS7G	6.3	2.5	135			125		280	2	7000
6F4	6.3	.225	150	−2		13		2900	17	5800
6L6WGB	6.3	0.9	250	−14	250	7.2	5.0	22,500		
6X4W	6.3	0.6	325			70				
5651			3-107 4-87			3.5				
5654/6AK5W	6.3	0.175	180	−2.0	120	7.7	2.4	690,000		5100
5670	6.3		300			18				
5686	6.3		250		250	15				
5726/6AL5W	6.3	0.3	117			10				
0A2			155			5-30				
0A3			105			5-40				
0C3W			133			5-40				

1—Anode No. 1
2—Anode No. 2
3—Starting voltage
4—Operating voltage

TABLE 7-11. CRYSTAL FREQUENCIES

CRYSTAL CIRCUIT			CRYSTAL SYMBOL	FREQUENCY (MC)	CIRCUIT LOCATION
First Crystal Oscillator			Y401	0.833333	Monitor
Second Crystal Oscillator	A	crystal	Y402	3.233333	
	E		Y403	3.400000	
	D		Y404	3.566667	
	C		Y405	3.733333	
	B		Y406	3.900000	
Third Crystal Oscillator	F		Y407	3.650000	
	P		Y408	3.666667	
	N		Y409	3.683333	
	L		Y410	3.700000	
	J		Y411	3.716667	
	G		Y412	3.733333	
	Q		Y413	3.750000	
	O		Y414	3.766667	
	M		Y415	3.783333	
	K		Y416	3.800000	
Fourth Crystal Oscillator	R		Y417	5.172917	
	S		Y418	5.181250	
Second Mixer Heterodyne			Y301	12.517800	I-F Video-Audio Chassis

TABLE 7-12. WINDING DATA

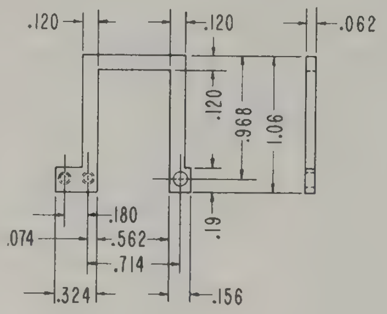
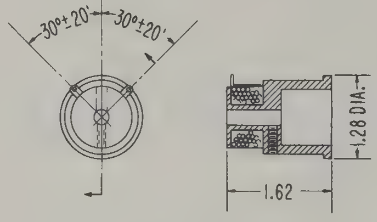
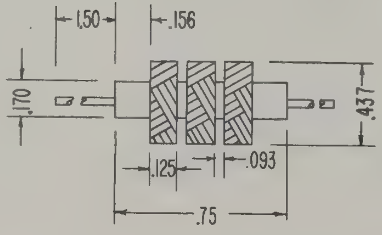
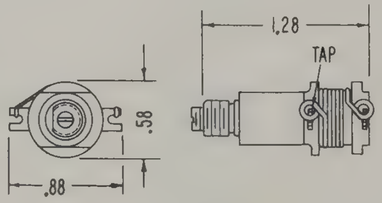
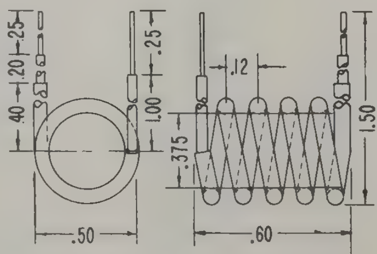
DESIG. SYMBOL	BENDIX PART NO.	DIAGRAM	WIND- ING	WIRE SIZE	TURNS	D.C. RES. IN OHMS	IMPED- ANCE RATIO	REMARKS
L101, L102, L103, L104	C215470-1	 .120 .120 .062 .120 .968 1.06 .180 .074 .562 .714 .19 .324 .156						
L105	L215355		Single	38 formvar	Approx. 6000	Approx. 600		Inductance: 290 mh.
L201, L409, L415, L416, L423, L909	C215351-2		Universal	36 sse.	Approx. 570	20		Inductance: 2 mh. at 1000 cycles
L202	N215544-9		Single layer	22e.	7.5			
L203	C215466-1	 .25 .20 .40 .25 1.00 .12 .375 1.50 .50 .60	Single layer	26e.	4.5			

TABLE 7-12. WINDING DATA (Continued)

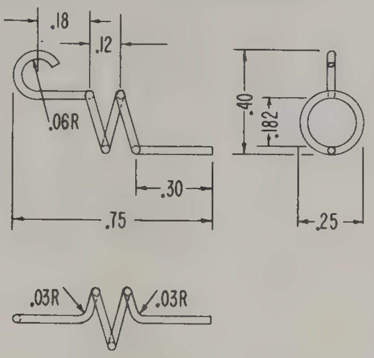
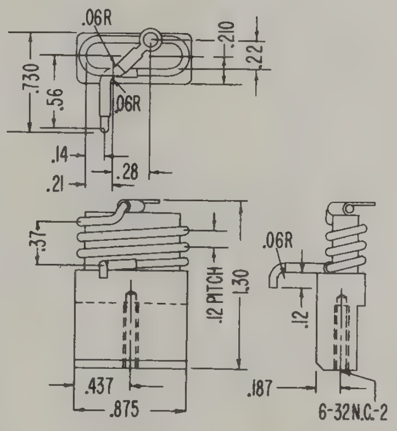
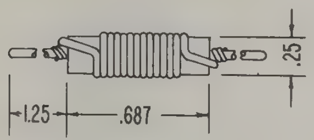
DESIG. SYMBOL	BENDIX PART NO.	DIAGRAM	WIND-ING	WIRE SIZE	TURNS	D.C. RES. IN OHMS	IMPED-ANCE RATIO	REMARKS
L204	C215467-1	 .18 .12 .06R .40 .182 .30 .75 .25 .03R .03R	Single layer		1.5			
L206, L207	Part of Z201							
L208, L209	Part of Z202							
L210, L212. L213, L214	Part of Z203							
L211	C215665	 .06R .210 .22 .730 .56 .06R .14 .21 .28 .37 .12 PITCH 1.30 .06R .12 .437 .875 .187 6-32N.C.-2	Single layer	14	3			
L215, L216, L219, L910	C215350-20		Single layer	28e.	38	.2		Minimum Q of 50 at 10 mc.
L301, L302	Part of Z301							
L303, L304	Part of Z302							
L305, L306	Part of Z303							
L307, L308	Part of Z304							
L309, L310	Part of Z305							

TABLE 7-12. WINDING DATA (Continued)

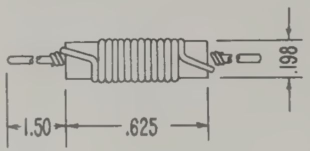
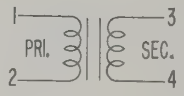
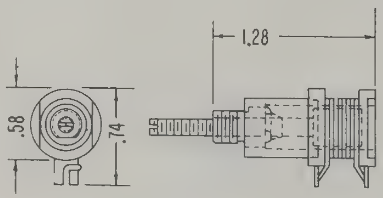
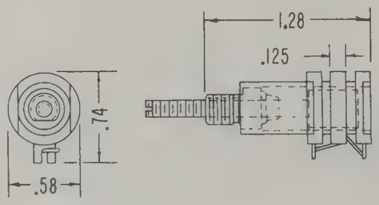
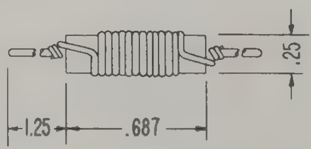
DESIG. SYMBOL	BENDIX PART NO.	DIAGRAM	WIND-ING	WIRE SIZE	TURNS	D.C. RES. IN OHMS	IMPED-ANCE RATIO	REMARKS
L311, L312	Part of Z306							
L313, L314, L315	Part of Z307							
L316, L317	Part of T301							
L318, L438, L439, L609, L616, L619, L620, L621, L622, L631	C215350-23		Single layer	26 formvar	28	.1		Inductance: 13 microhenricsat 2.5 mc.
T301	L284339-1		Primary secondary		5.75 to 1 ratio		37.5 to 1	300 to 4000 cycle frequency range ± 3 db. over range
L401	N215544-5		Single layer	33e.	30			
L402	N215544-6		Single pie	3 strand litz	Approx. 130			Inductance: Approx. 250 uh to 300 uh at 800 kc
L404	C215350-11		Single layer	28d.s.	21	.1		Inductance: 1.5 uh at 7.9 mc.
L405, L406	Part of Z401							
L407, L408	Part of Z402							

TABLE 7-12. WINDING DATA (Continued)

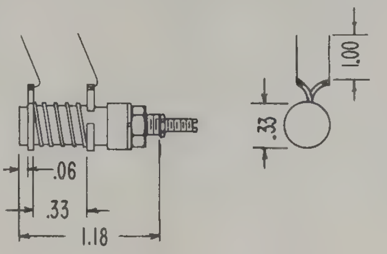
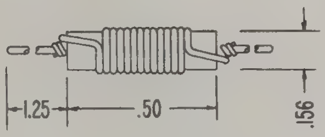
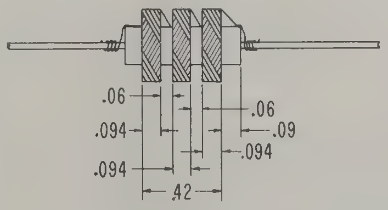
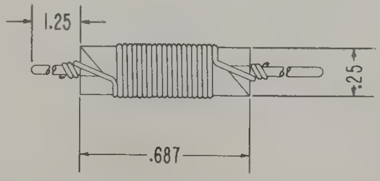
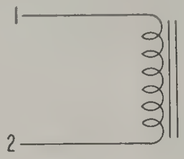
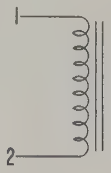
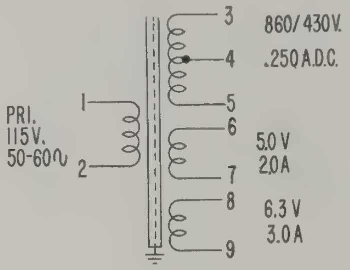
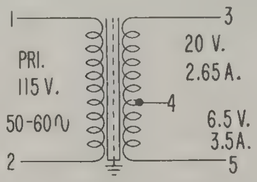
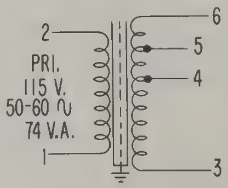
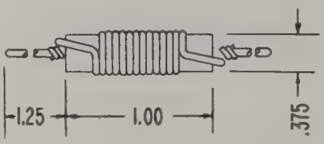
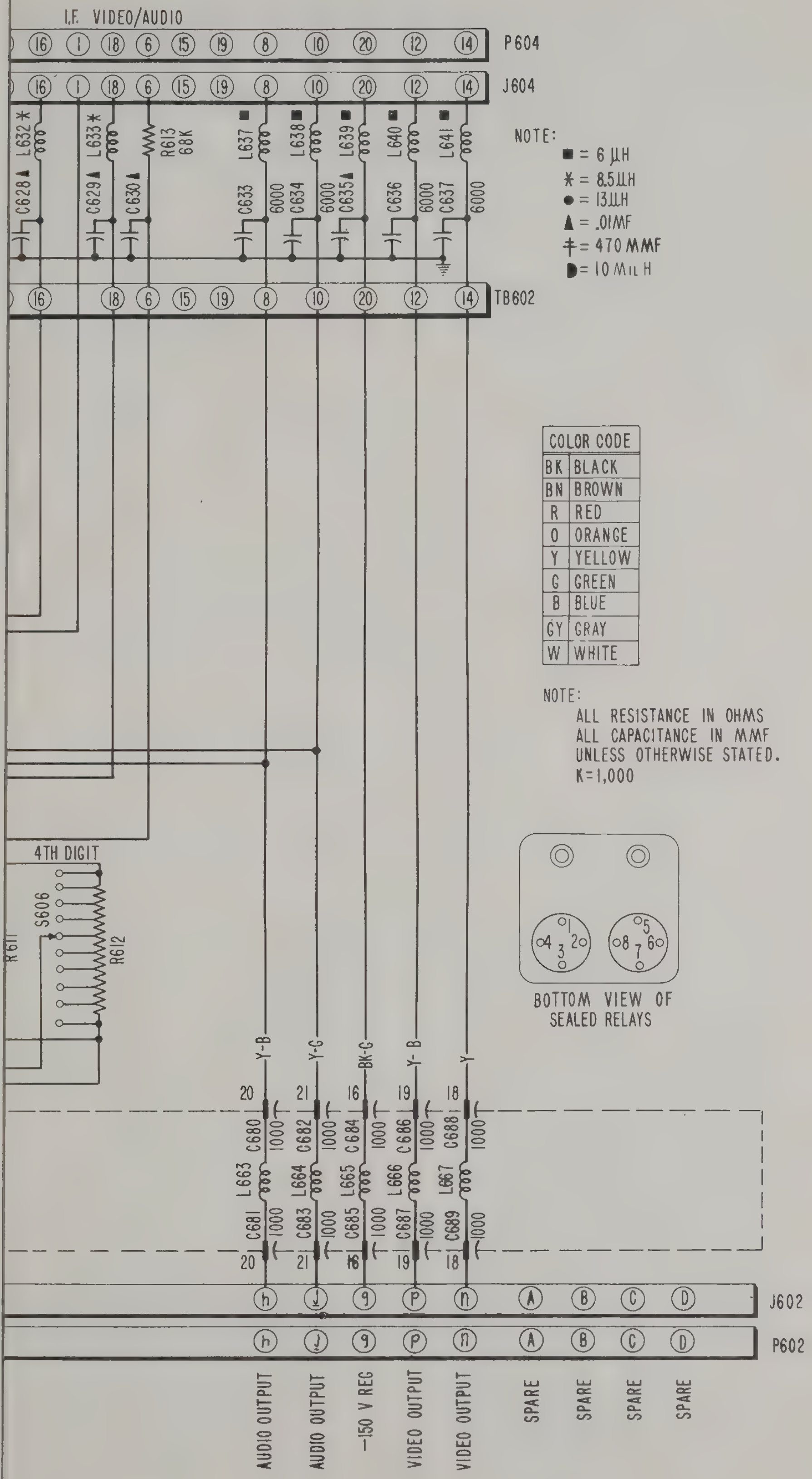
DESIG. SYMBOL	BENDIX PART NO.	DIAGRAM	WINDING	WIRE SIZE	TURNS	D.C. RES. IN OHMS	IMPEDANCE RATIO	REMARKS
L410, L411	Part of Z403							
L412	C217337–2		Single layer	26e.	5			
L413, L414	Part of Z404							
L417, L418	Part of Z405							
L419, L420	Part of Z406							
L421, L422	Part of Z407							
L424 to L437, L440, L442 to L447, L449, L450, L601 to L608, L610, L612 to L615, L618, L623 to L630, L632, L633, L637 to L641	C215350-24		Single layer	30 formvar	34	.22		Inductance: 8.5 microhenries at 7.9 mc.
L448, L911	C234040–1		Universal			Approx. 43		Inductance: 10 microhenries at 1000 cycles
L643 to L667	C215350–30		Single layer	20e.	14			

TABLE 7-12. WINDING DATA (Continued)

DESIG. SYMBOL	BENDIX PART NO.	DIAGRAM	WIND-ING	WIRE SIZE	TURNS	D.C. RES. IN OHMS	IMPED-ANCE RATIO	REMARKS
L701	L284318-1		Single			80		Inductance: 5 h.
L702	L284064-1		Single			0.90		Inductance: 0.25 h.
T701	N284319-1	 3 860/430V. 4 .250A.D.C. 5 PRI. 115V. 50-60∿ 1 2 6 5.0 V 2.0A 7 8 6.3 V 3.0 A 9	Primary Secondary No. 1 Secondary No. 2					
T702	N284320-1	 1 3 PRI. 115 V. 50-60∿ 20 V. 2.65 A. 4 6.5 V. 3.5A. 2 5	Primary Secondary					
T703	L284063-1	 6 2 5 PRI. 115 V. 4 50-60 ∿ 74 V.A. 1 3	Primary Secondary					
L801, L802, L1101, L1102	C215350-37		Single layer	18e.	10	0.15		Inductance: 0.68 microhenries at 2.5 mc.



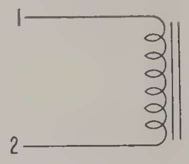
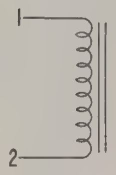
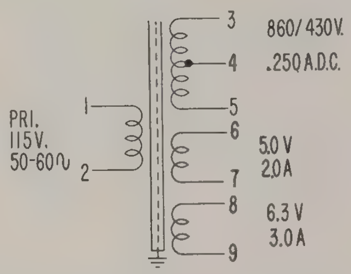
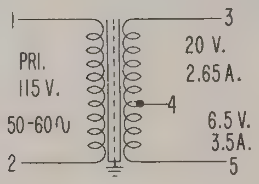
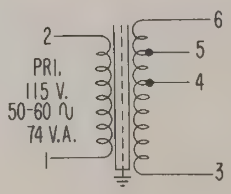
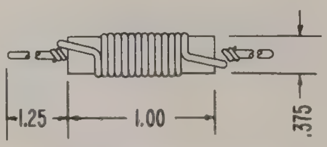
NOTE:
■ = 6 μH
✱ = 8.5 μH
● = 13 μH
▲ = .01 MF
╪ = 470 MMF
◗ = 10 MIL H

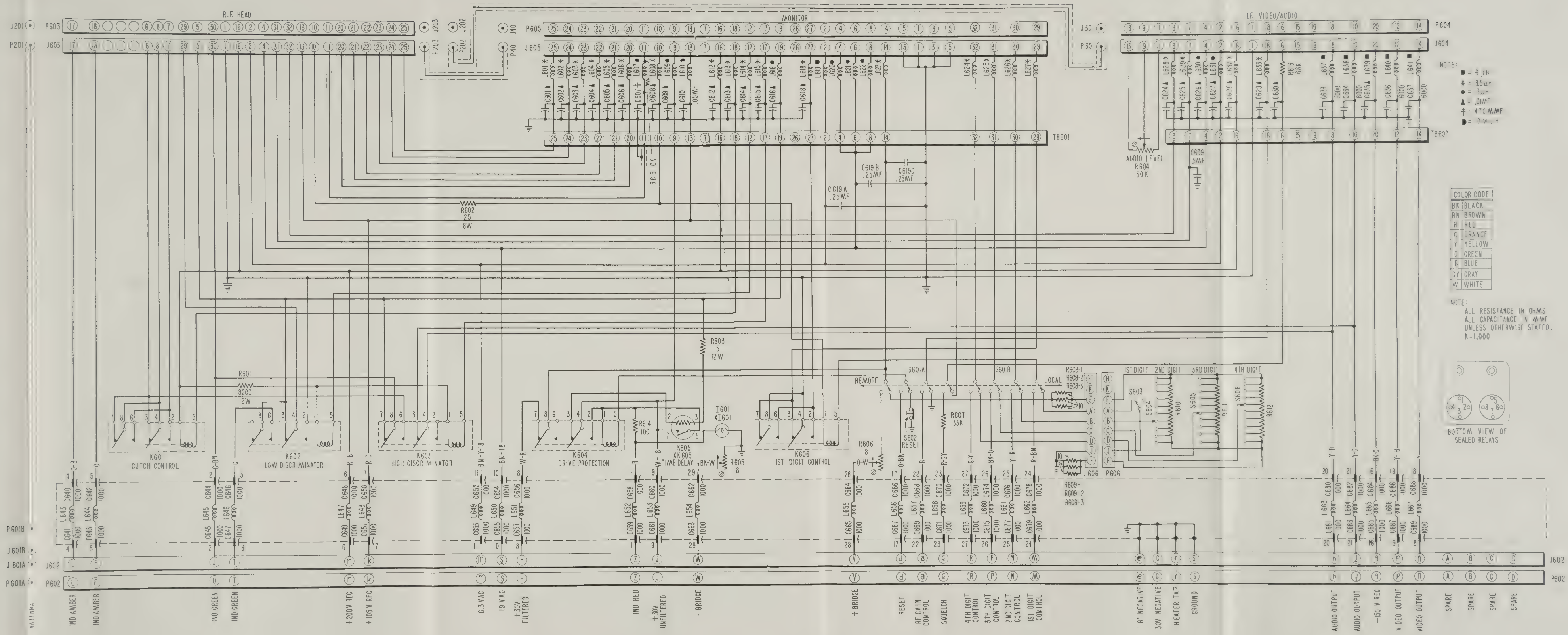
COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

NOTE:
ALL RESISTANCE IN OHMS
ALL CAPACITANCE IN MMF
UNLESS OTHERWISE STATED.
K=1,000

7-38. *Receiver Frame, Schematic Diagram*

TABLE 7-12. WINDING DATA (Continued)

DESIG. SYMBOL	BENDIX PART NO.	DIAGRAM	WIND-ING	WIRE SIZE	TURNS	D.C. RES. IN OHMS	IMPED-ANCE RATIO	REMARKS
L701	L284318-1		Single			80		Inductance: 5 h.
L702	L284064-1		Single			0.90		Inductance: 0.25 h.
T701	N284319-1	 3 860/430V. 4 .250A.D.C. PRI. 115V. 50-60∿ 1 2 5 6 5.0 V 2.0A 7 8 6.3 V 3.0A 9	Primary Secondary No. 1 Secondary No. 2					
T702	N284320-1	 1 3 PRI. 115 V. 50-60∿ 20 V. 2.65 A. 4 6.5 V. 3.5A. 2 5	Primary Secondary					
T703	L284063-1	 6 2 5 PRI. 4 115 V. 50-60 ∿ 74 V.A. 1 3	Primary Secondary					
L801, L802, L1101, L1102	C215350-37		Single layer	18e.	10	0.15		Inductance: 0.68 microhenries at 2.5 mc.

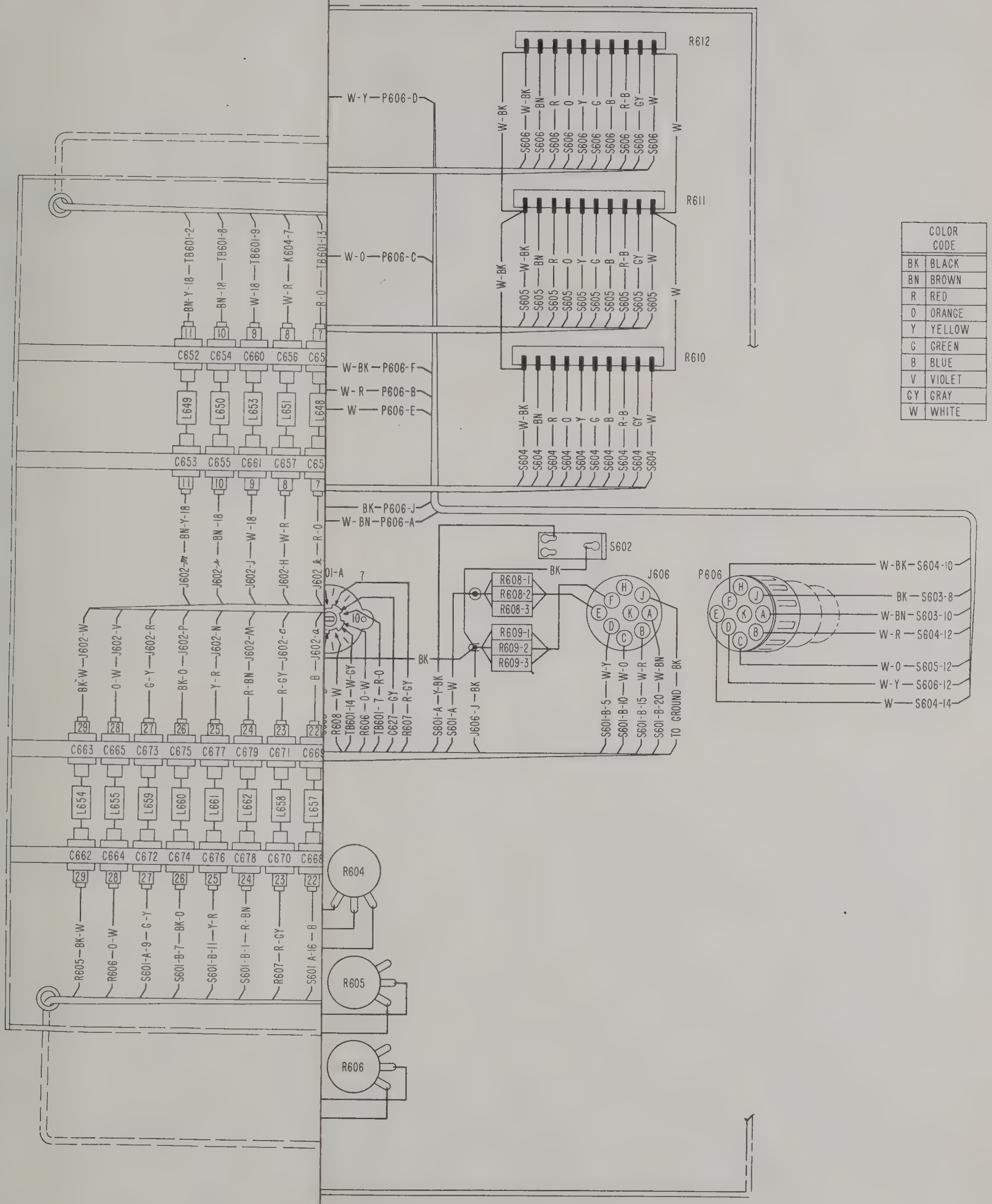


NOTE:
■ = 6 μH
✱ = 8.5 μH
● = 3 μH
▲ = .01MF
ǂ = 470 MMF
◗ = 10 μH

COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

NOTE:
ALL RESISTANCE IN OHMS
ALL CAPACITANCE IN MMF
UNLESS OTHERWISE STATED.
K=1,000

Figure 7-38. Receiver Frame, Schematic Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

7-39. *Receiver Frame, Wiring Diagram*

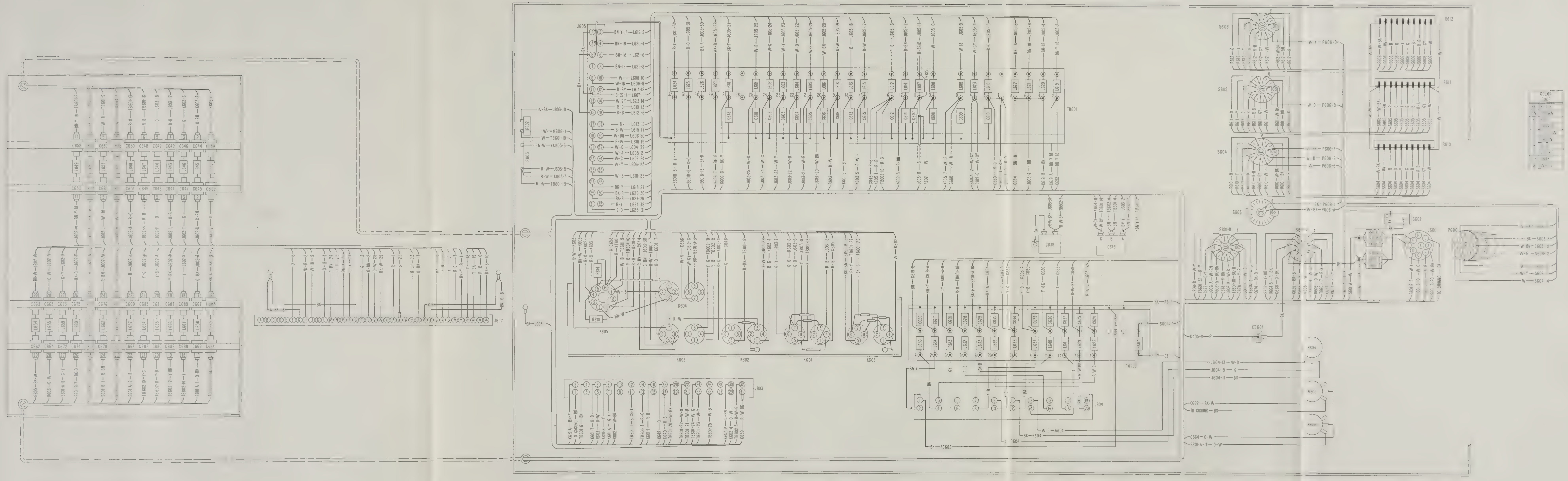
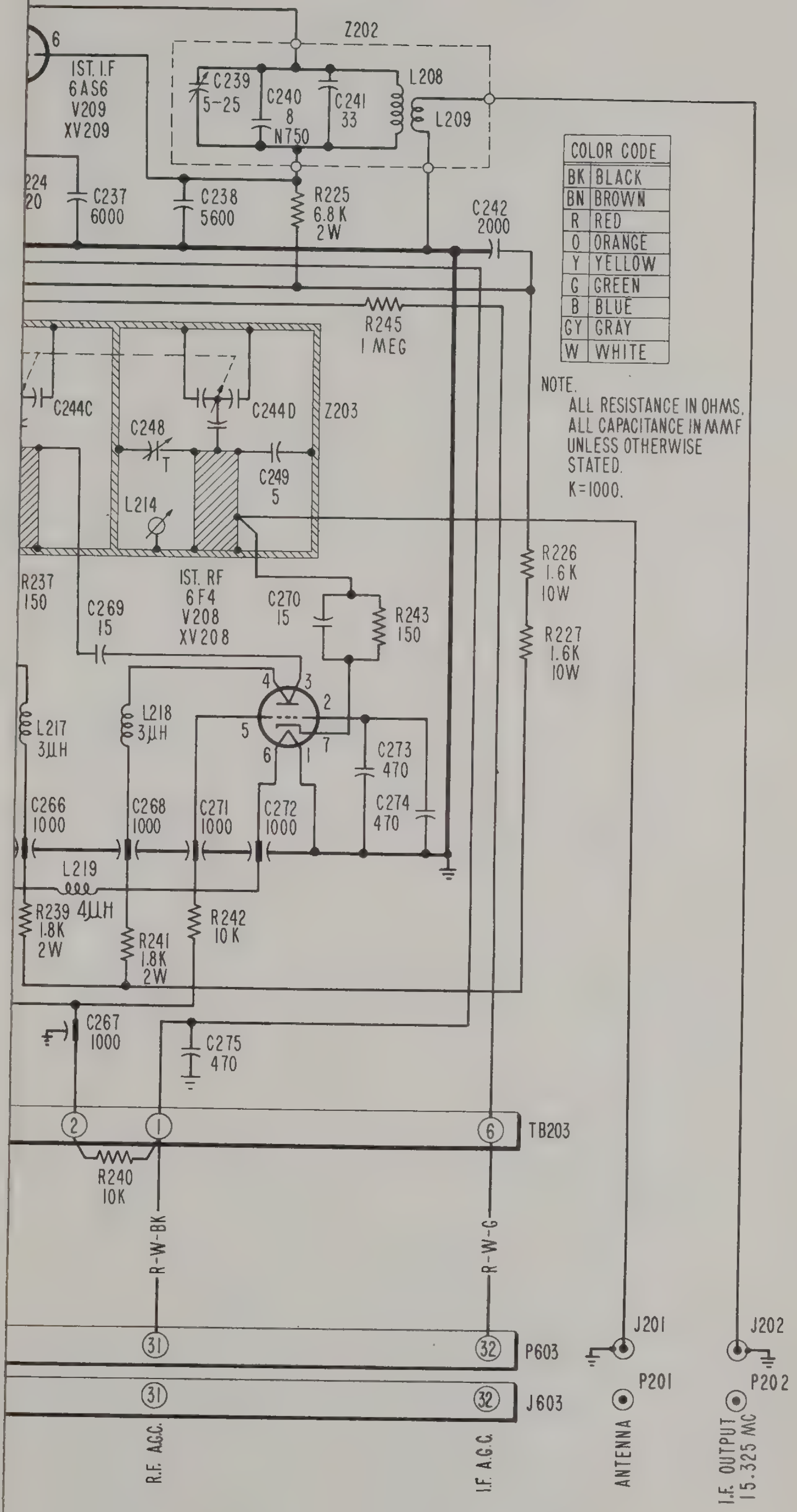


Figure 7-39. Receiver Frame, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

NOTE.
ALL RESISTANCE IN OHMS.
ALL CAPACITANCE IN MMF
UNLESS OTHERWISE
STATED.
K=1000.

R-F Head, Schematic Diagram

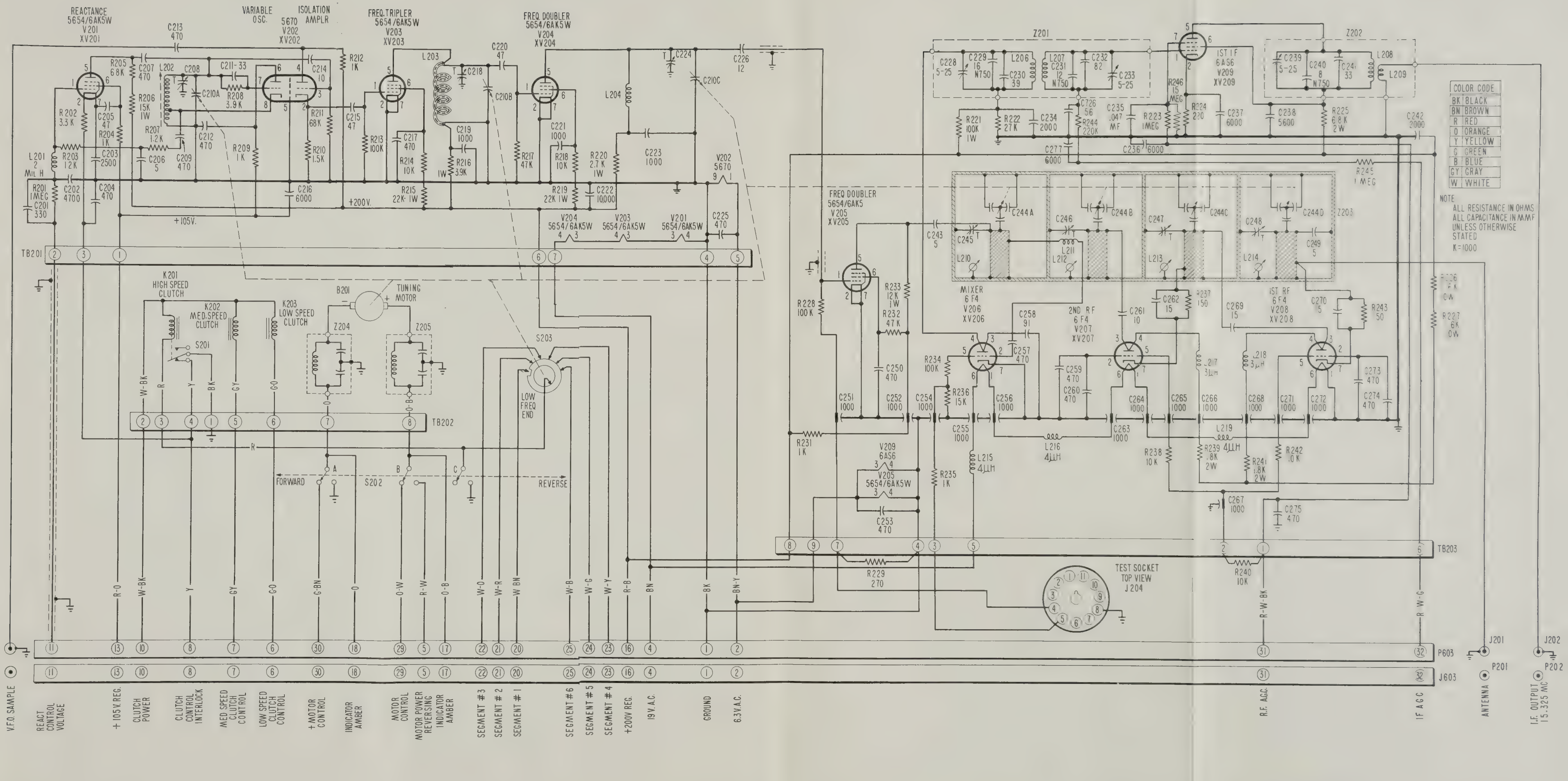
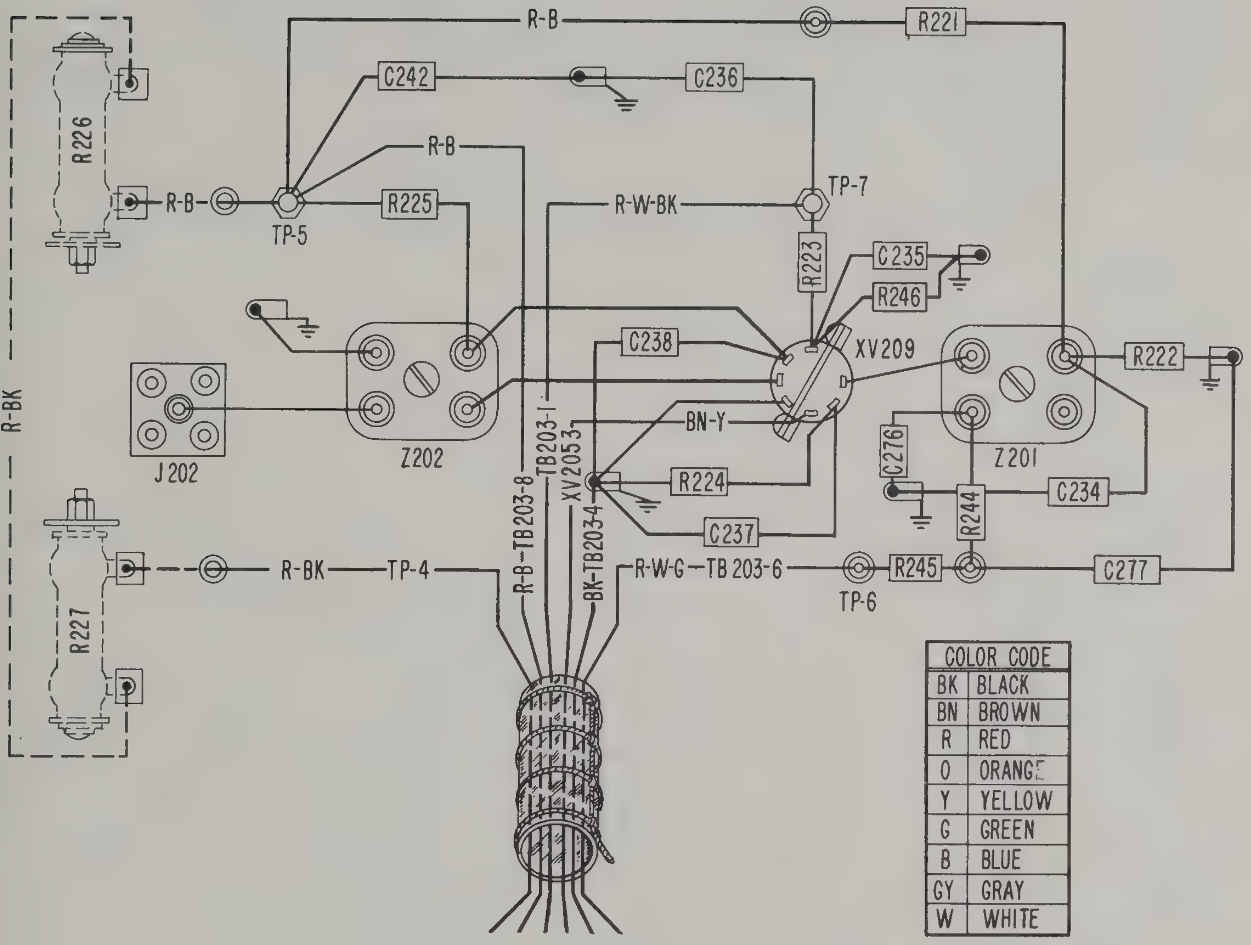


Figure 7-40. R-F Head, Schematic Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

Figure 7-45. R-F Head, I-F Chassis, Wiring Diagram

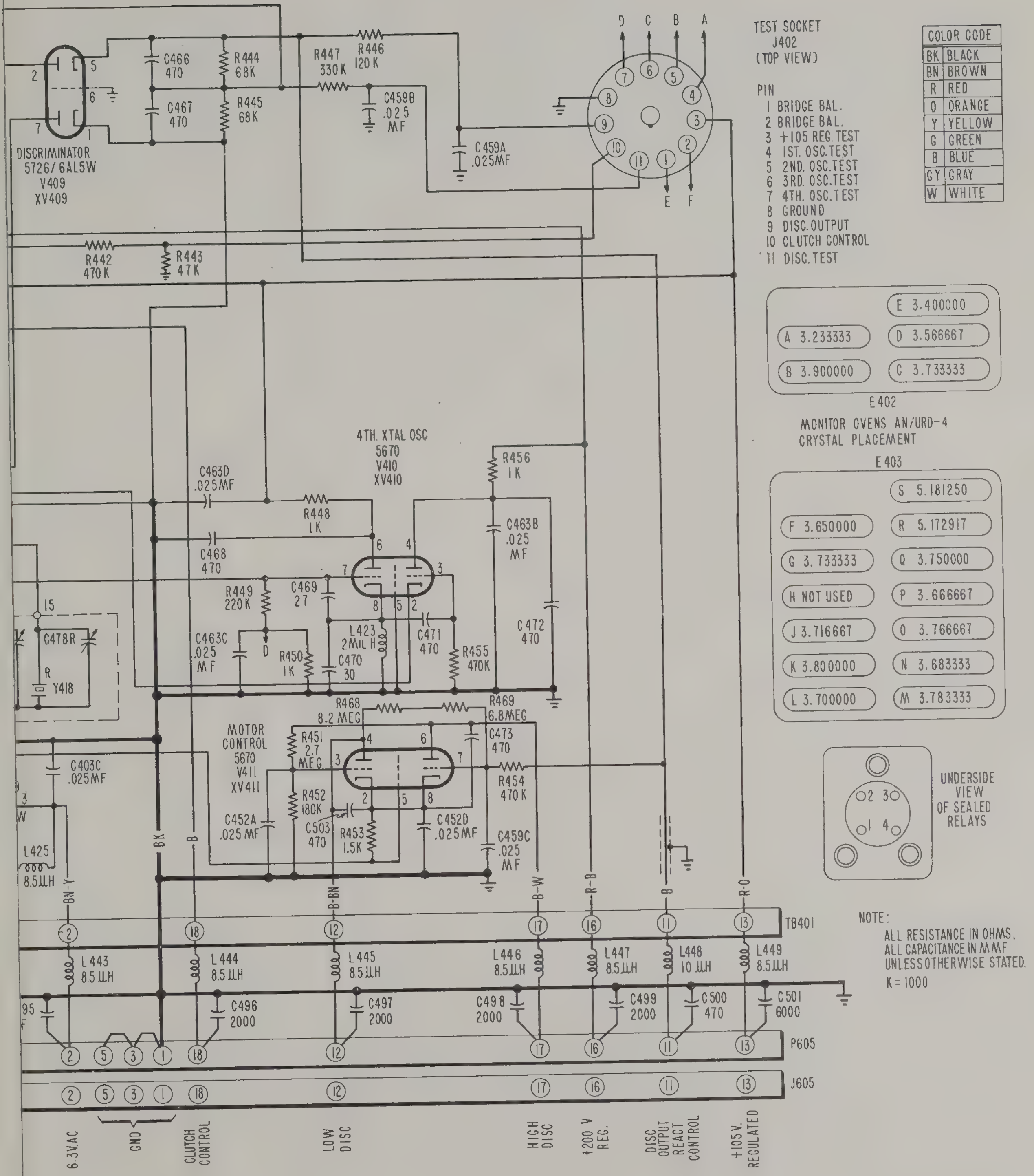


Figure 7-46. Monitor, Schematic Diagram

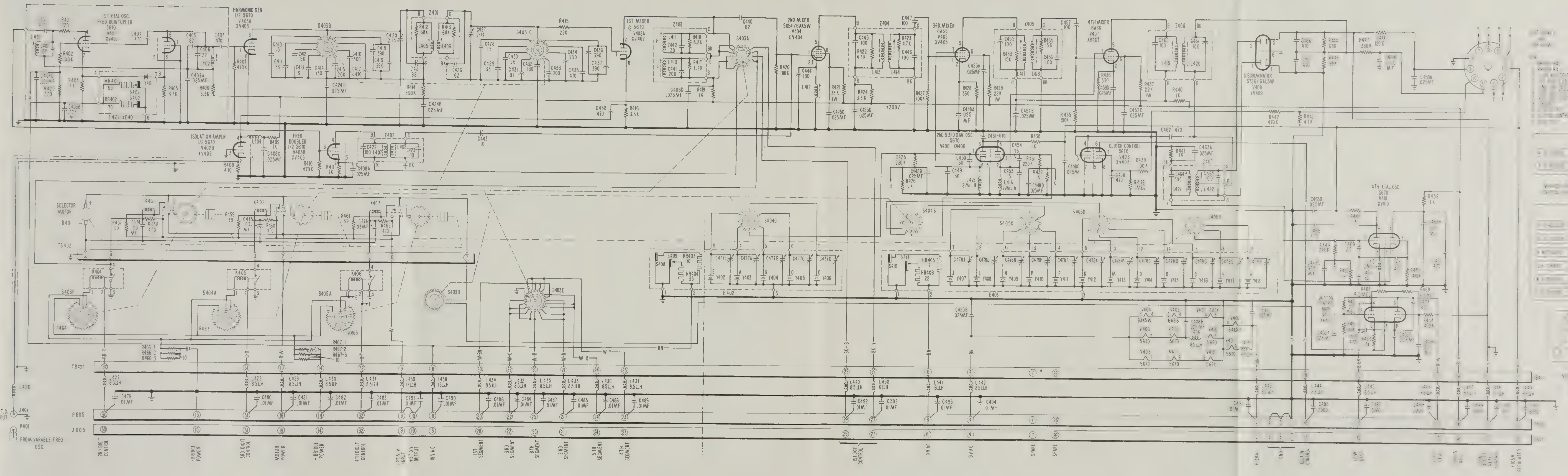
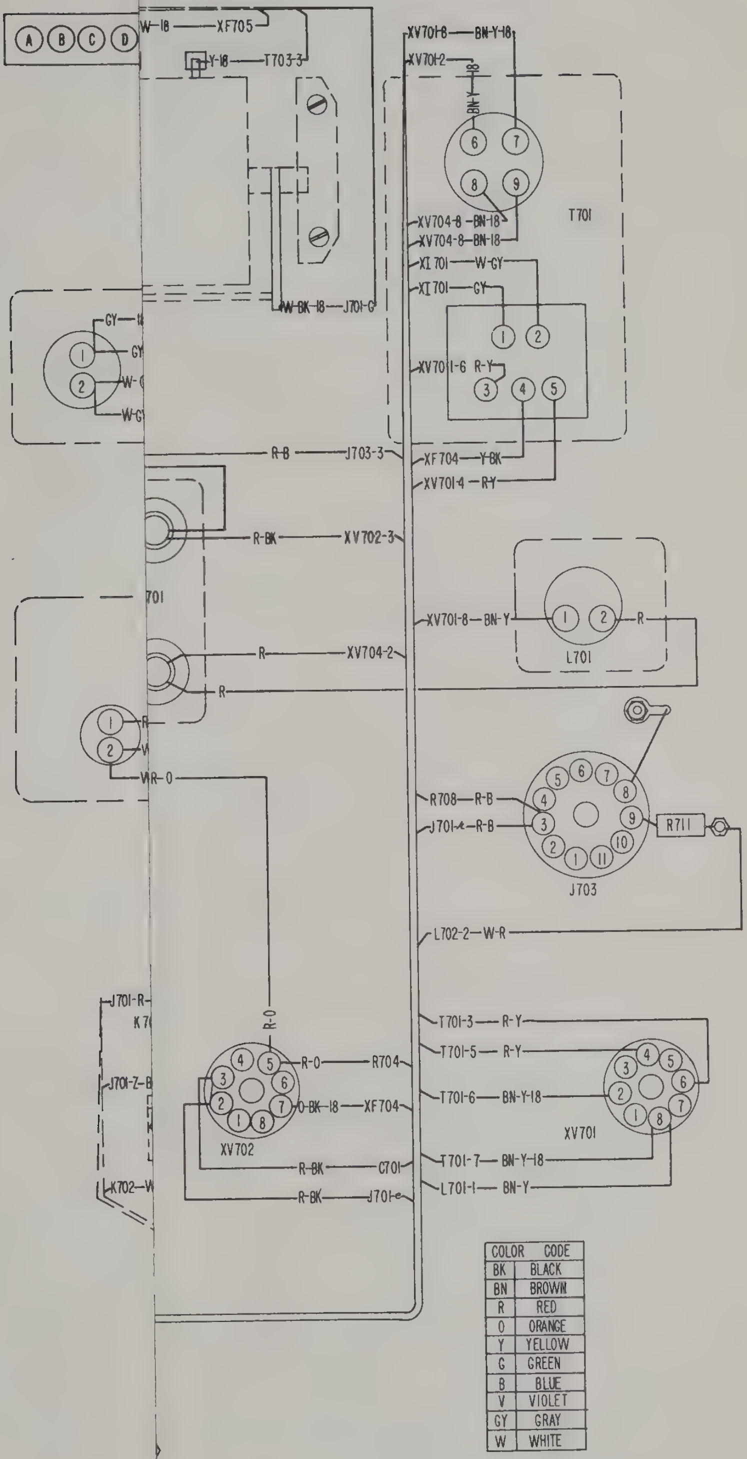
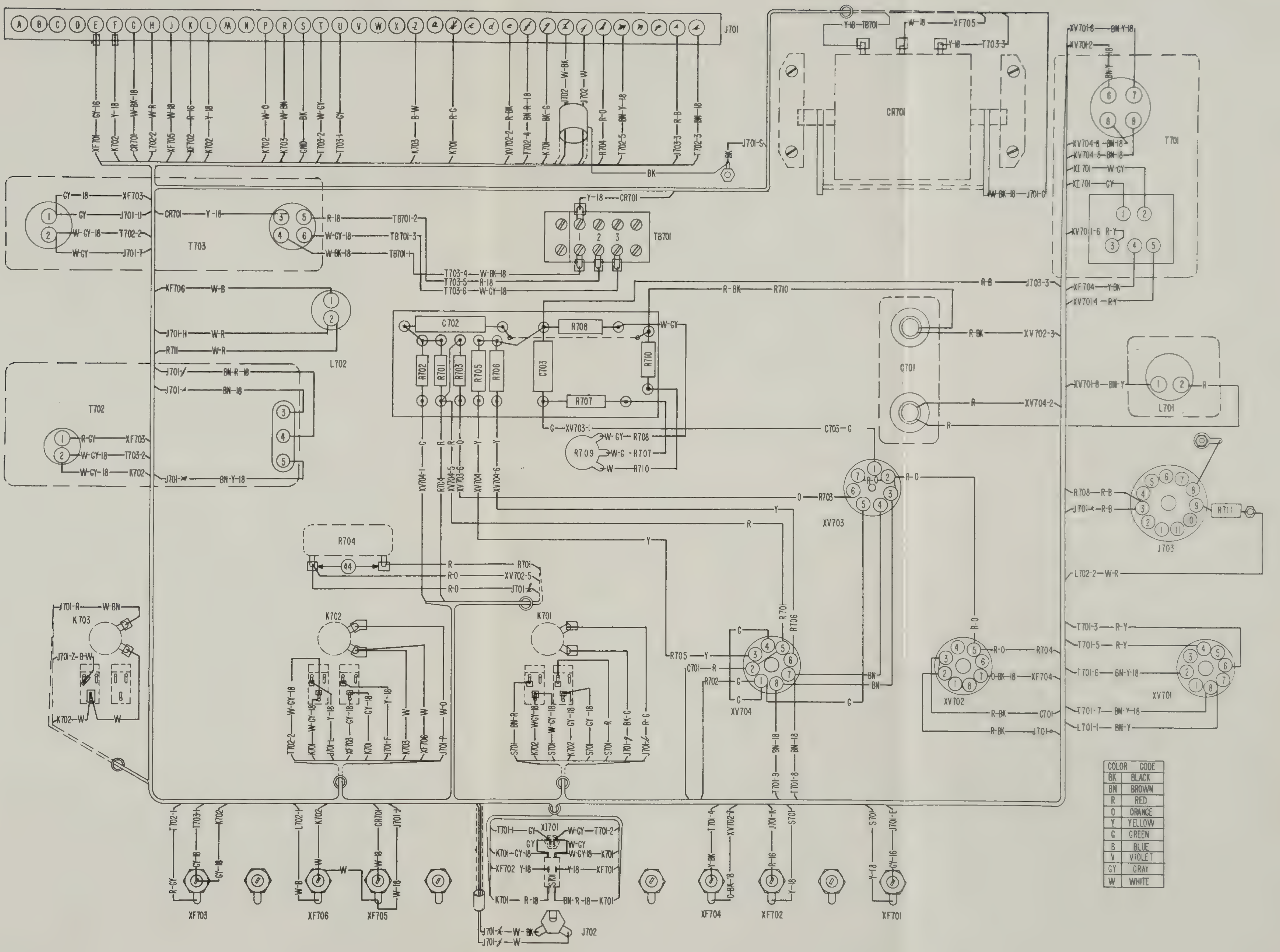

1ST XTAL OSC. FREQ QUINTUPLER 5670 V401 XV401
HARMONIC GEN 1/2 5670 V403A XV403
1ST MIXER 1/2 5670 V402A XV402
2ND MIXER 5654/6AK5W V404 XV404
3RD MIXER 6AS6 V405 XV405
4TH MIXER 6AS6 V407 XV407
DISCRIMINATOR 5726/6AL5W V409 XV409
ISOLATION AMPLR 1/2 5670 V402B XV402
FREQ DOUBLER 1/2 5670 V403B XV403
2ND & 3RD XTAL OSC 5670 V406 XV406
CLUTCH CONTROL 5670 V408 XV408
4TH XTAL OSC 5670 V410 XV410
SELECTOR MOTOR
B401
TB402
TB401
P605
J805
V.F.O. INPUT
J401
P401
FROM VARIABLE FREQ OSC.
2ND DIGIT CONTROL
BRIDGE POWER
3RD DIGIT CONTROL
MOTOR POWER
+BRIDGE POWER
4TH DIGIT CONTROL
+27.5 V INPUT
+27.5 V OUTPUT
19 VAC
1ST SEGMENT
3RD SEGMENT
6TH SEGMENT
2ND SEGMENT
5TH SEGMENT
4TH SEGMENT
1ST DIGIT CONTROL
9 VAC
19 VAC
SPARE
SPARE
+200V
E402
E403

Figure 7-46. Monitor, Schematic Diagram



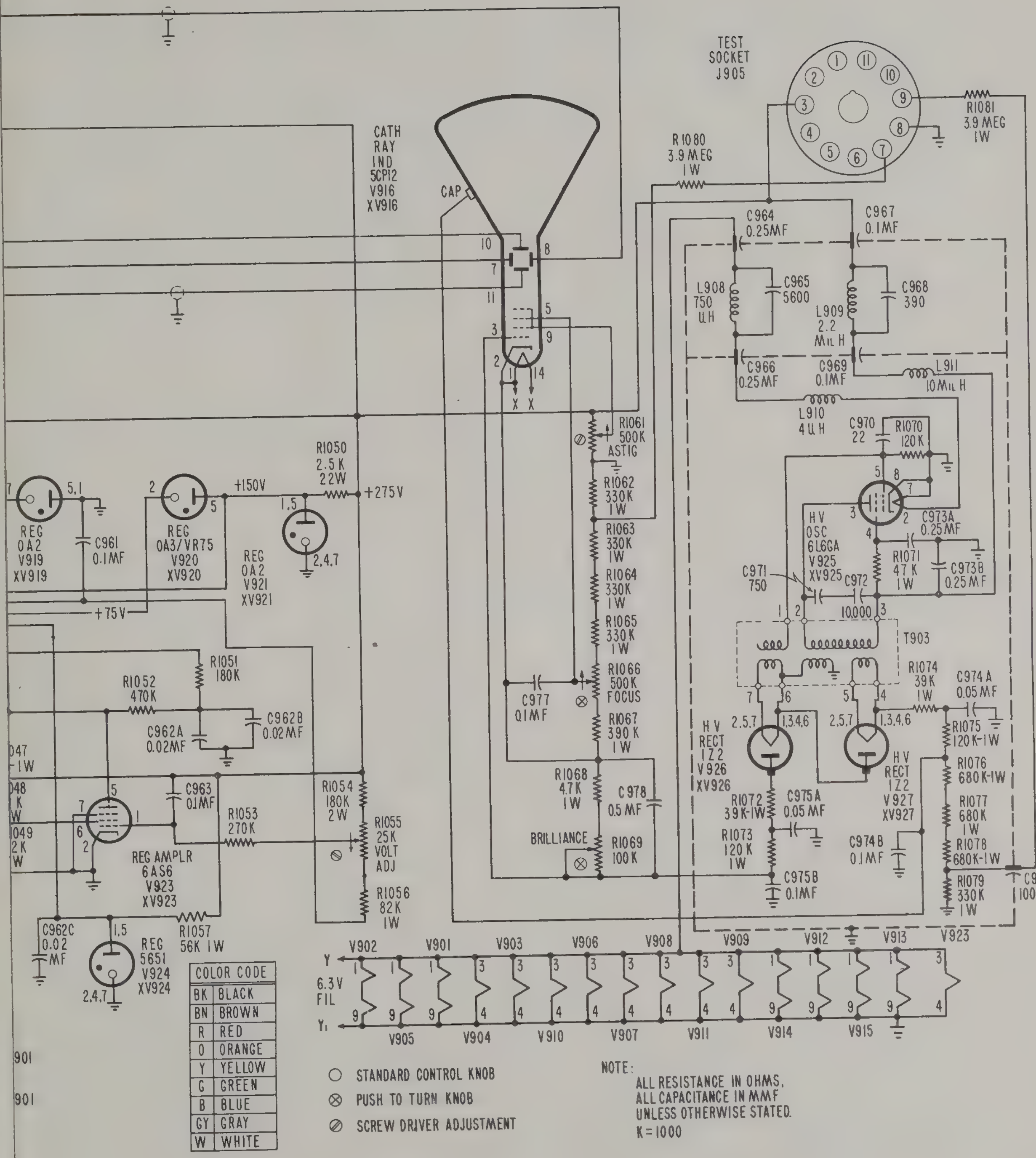
COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

RD-4, Wiring Diagram



COLOR	CODE
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
V	VIOLET
GY	GRAY
W	WHITE

Figure 7-52. Power Supply PP-556/URD-4, Wiring Diagram



COLOR CODE	
BK	BLACK
BN	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
B	BLUE
GY	GRAY
W	WHITE

○ STANDARD CONTROL KNOB
⊗ PUSH TO TURN KNOB
⊘ SCREW DRIVER ADJUSTMENT

NOTE:
ALL RESISTANCE IN OHMS,
ALL CAPACITANCE IN MMF
UNLESS OTHERWISE STATED.
K=1000

Figure 7-55. Azimuth Indicator IP-93/URD-4, Schematic Diagram

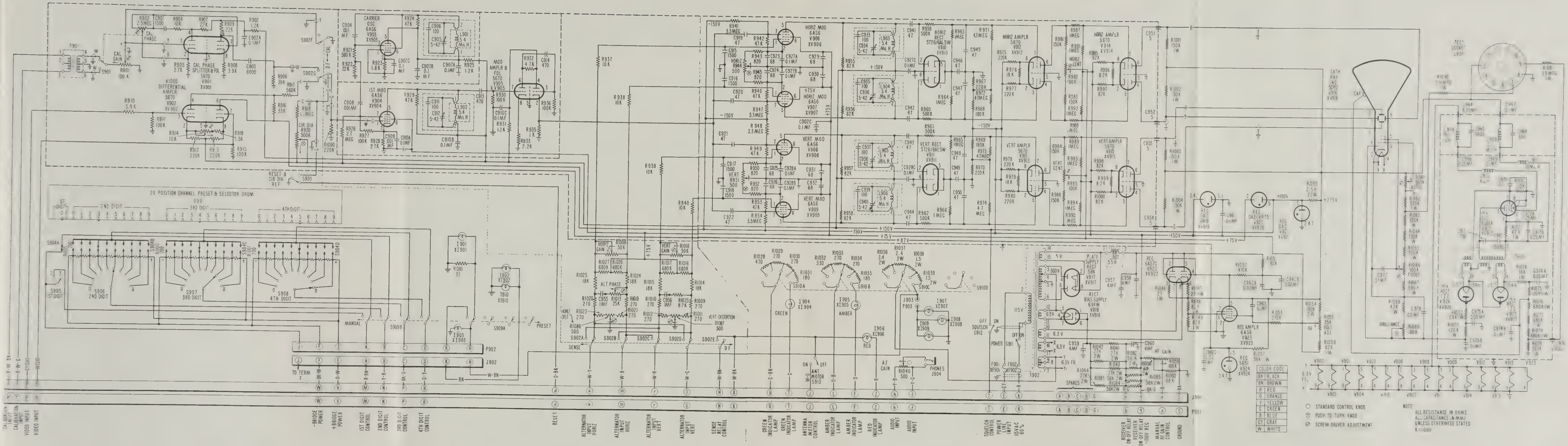
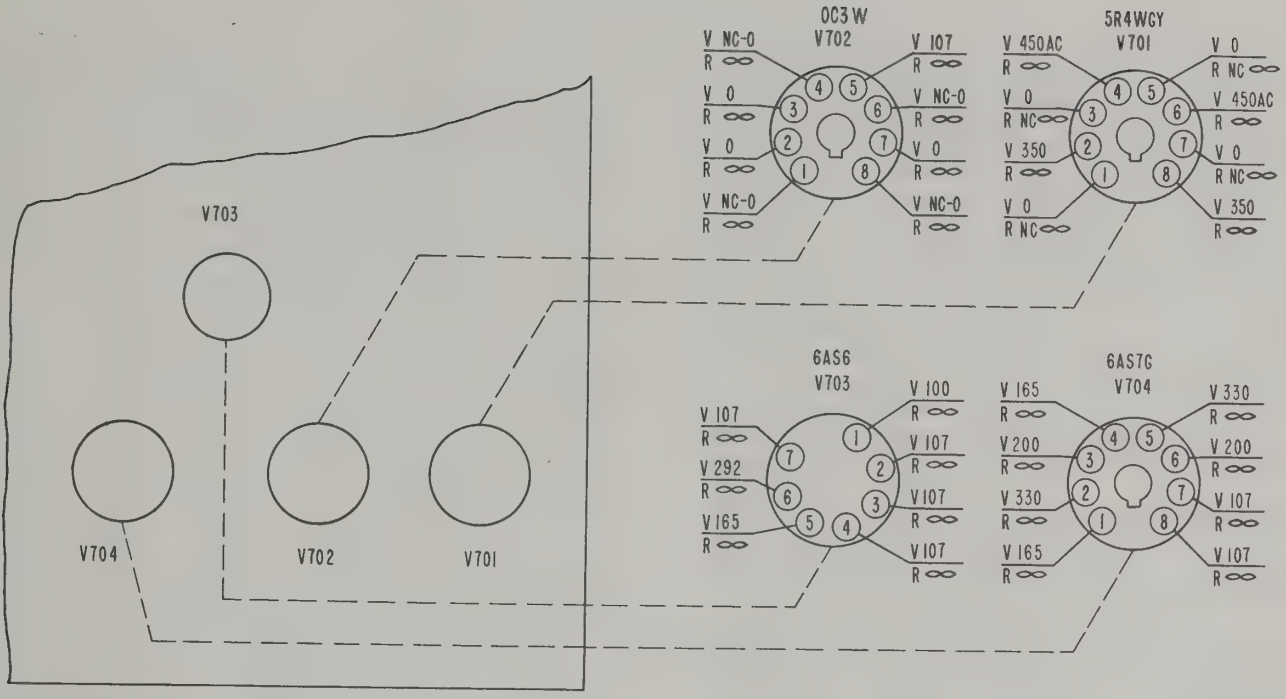


Figure 7-55. Azimuth Indicator IP-93/URD-4, Schematic Diagram



NOTES

ALL READINGS TAKEN WITH 20,000 OHM/VOLT METER.
ALL READINGS TAKEN FROM TERMINAL TO GROUND UNLESS OTHERWISE NOTED.
V-INDICATES DC VOLTAGE UNLESS OTHERWISE NOTED.
R-INDICATES DC RESISTANCE WITH EXTERNAL CABLES DISCONNECTED.
NC-INDICATES NO CONNECTION TO TERMINAL.
RF GAIN AND AF GAIN CONTROL SET TO MAXIMUM.
SQUELCH SWITCH TO ON POSITION.
ANTENNA ROTATING.

Figure 7-62. Power Supply PP-556/URD-4, Voltage and Resistance Measurements

SECTION 8
PARTS LIST

1. INTRODUCTION

Reference designations (previously referred to as circuit symbol, reference symbol, etc.) have been assigned to identify all maintenance parts of the equipment. They are used for marking the equipment (adjacent to the part they identify) and are included on drawings, diagrams, and the parts list. The letters of a reference designation indicate the kind of part (generic group) such as resistor, amplifier, electron tube, etc. The number differentiates between parts of the same generic group. Parts of the first major unit are numbered from 101 to 199; parts of the second 201 to 299, etc. Consecutive series of numbers have been assigned to major units in which there are more than one hundred parts of the same generic group. Sockets associated with a particular plug-in device, such as an electron tube or a fuse, are identified by a reference designation which includes the reference designation of the plug-in device. For example, the socket for fuse F7 is designated XF7. Reference designations have been referred to in various tables of Section 8 as Key Designations and Sub Key Designations. A Key Designation is a part that is initially described in the first major unit of Table 8-3, when the identical part appears in a subsequent major unit it is again described and is known as a Sub Key Designation.

2. LIST OF MAJOR UNITS

Table 8-1 contains a listing of all major units used in the system, showing the symbol group, quantity per system, Army-Navy name and designation, colloquial name, Standard Navy Stock Number, Army Signal Corp Stock Number, and page number on which listing of first maintenance part appears.

3. LIST OF MAJOR UNITS BY COLLOQUIAL NAMES

Table 8-2 lists all major units by colloquial name (which are referred to in the literature) cross referenced to the Army-Navy Nomenclature assigned, and the page number on which listing of first maintenance part appears.

4. MAINTENANCE PARTS LIST

Table 8-3 lists all major units and their maintenance parts. Each major unit's parts are grouped together.

Column 1 lists the reference series of each major unit followed by the reference designation of the various parts in alphabetical and numerical sequence.

Column 2 includes a reference to the explanatory notes that appear in paragraph 8 which will aid personnel in maintaining the equipment.

Column 3 includes the name and description of all replaceable parts whether supported or non-supported. Information classified higher than the parts list has been omitted. Complete information is provided for all key parts and sub-key parts. The name and description is omitted for other parts.

Column 4 indicates how the part is used and provides its functional location in the equipment.

5. STOCK NUMBER IDENTIFICATION AND LOCATION

Table 8-4 contains a cross reference list of key circuit symbol numbers and stock numbers.

Column 1 lists all Key and Sub Key Designations in the same order as listed in Table 8-3.

Column 2 lists Standard Navy Stock Number for all maintenance parts supported in the Navy Supply System. Stock Numbers preceded by an asterisk (*) apply to replacement items which differ from the item supplied in the equipment or equipment spares.

Column 3 lists Army Signal Corps Stock Numbers for all maintenance items in the Marine Corps Supply System.

6. STOCK NUMBER CROSS REFERENCE

Table 8-5 gives a cross reference from the *Standard Navy Stock Number* and Signal Corps Stock Numbers to a listing of all Key Designations for each stock number in the equipment. *Stock Numbers* preceded by an asterisk (*) apply to replacement items which, in some instances differ from the items supplied in the equipment or equipment spares.

7. LIST OF MANUFACTURERS

Table 8-6 lists manufacturers of parts used in the equipment. The prefix letters are those assigned by the Bureau of Ships to identify the manufacturers, on identification plates (nameplates) and on small parts.

8. NOTES

The note numbers listed below appear in column 2 of Table 8-3 and provide additional information concerning maintenance of the equipment.

1. Assembly from component parts.
2. Shop manufacture locally.
3. Low-failure Item—If required requisition from ESO referencing NAVSHIPS 900180a.

TABLE 8-1 LIST OF MAJOR UNITS

REF. DESIG. GROUP	QTY. PER SYSTEM	AN NAME & NOMENCLATURE	COLLOQUIAL NAME	STANDARD NAVY STOCK NUMBER	SIGNAL CORPS STOCK NUMBER	PAGE
	X	DIRECTION FINDER SET AN/URD-4		F16-D-56863-5376	2S4300-4	8–4
101-199	1	ANTENNA AS-514/URD-4	Antenna	F16-A-45190-5801	2A264-514	8–4
201-699	1	RECEIVER, RADIO R-353/URD-4	Radio Receiver	F16-R-31680-9601	2C4180-353	8–11
701-799	1	POWER SUPPLY PP-556/URD-4	Power Supply	F16-P-68315-6051	3H4497-556	8–64
801-899	1	CABINET CY-890/URD-4	Cabinet	N16-C-10639-8315	6F300-890	8–70
901-1099	1	INDICATOR, AZIMUTH IP-93/URD-4	Indicator	F16-I-48411-1009	2C1565A-93	8–73
1101-1199	1	CABINET, ELECTRICAL EQUIPMENT CY-1304/URD-4	Indicator Cabinet	N16-C-10644-2021	6F300-1304	8–103
1201-1299	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-2356/U (3 ft 10 in.)	20 Pin Test Cable	N17-C-48890-8326	3E5999-12.25	8–107
1201-1299	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-2357/U (3 ft 11 in.)	32 Pin Test Cable	N17-C-48900-7121	3E5999-12.27	8–107
1201-1299	2	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-2358/U (3 ft 8 in.)	37 Pin Test Cable	N17-C-48904-4101	3E5999-12.28	8–107
1201-1299	1	CABLE ASSEMBLY, RADIO FREQUENCY CG-1068/U (1 ft 6 in.)	RF Patch Cable	N16-C-11923-2811	3E5999A-112	8–108
1201-1299	1	CABLE ASSEMBLY, RADIO FREQUENCY CG-1068/U (3 ft 0 in.)	RF Patch Cable	N16-C-11923-4581	3E5999A-113	8–108
1301-1399	1	TEST SET, RADIO TS-777/URD-4	Voltage Test Set	F16-T-20241-1231	3F4325-777	8–108
1401-1499	1	MAST AB-198/U	Antenna Mast	N16-M-150301-201	2A2067-198	8–112

TABLE 8-2 LIST OF MAJOR UNITS BY COLLOQUIAL NAMES

COLLOQUIAL NAME	AN NAME & NOMENCLATURE	PAGE
Antenna	ANTENNA AS-514/URD-4	8-4
Radio Receiver	RECEIVER, RADIO R-353/URD-4	8-11
Power Supply	POWER SUPPLY PP-556/URD-4	8-64
Cabinet (Receiver-Power Supply)	CABINET CY-890/URD-4	8-70
Indicator	INDICATOR, AZIMUTH IP-93/URD-4	8-73
Indicator Cabinet	CABINET, ELECTRICAL EQUIPMENT CY-1304/URD-4	8-103
20 Pin Test Cable	CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-2356/U (3 ft 10 in.)	8-107
32 Pin Test Cable	CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-2357/U (3 ft 11 in.)	8-107
37 Pin Test Cable	CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL CX-2358/U (3 ft 8 in.)	8-107
RF Patch Cable	CABLE ASSEMBLY, RADIO FREQUENCY CG-1068/U (1 ft 6 in.)	8-108
RF Patch Cable	CABLE ASSEMBLY, RADIO FREQUENCY CG-1068/U (3 ft 0 in.)	8-108
Voltage Test Set	TEST SET, RADIO TS-777/URD-4	8-108
Antenna Mast	MAST AB-198/U	8-112

4. For reference only.
5. Non-supported. If required, will be procured by Naval Supply Activity on demand.
6. This unit should not be replaced unless repair is beyond the using activity. If replacement is required the unit must be turned into the activity from which replacement is received.

9. LOCATING AND IDENTIFYING PARTS

A. WHEN THE REFERENCE DESIGNATION IS KNOWN

The complete description including the design manufacturer's and contractor's part number is found in Table 8-3. The Standard Navy Stock Number and the Location Number is found in Table 8-4.

B. WHEN ONLY THE STANDARD NAVY STOCK NUMBER OR SIGNAL CORPS STOCK NUMBER IS KNOWN

By reference to Table 8-5 which is compiled in Army and Navy Stock Number order, the Key Designation of the part can be determined, then by reference to Table 8-3 the complete mechanical and electrical characteristics of the part can be checked or verified. The part can then be found and restored within the equipment by reference to Table 8-4.

TABLE 8-3. MAINTENANCE PARTS LIST

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
100-199		ANTENNA AS-514/URD-4: adcock type vertical dipole array; frequency range 225.0 mc to 399.9 mc incl, 50 ohms characteristic input impedance, coaxial transmission line feeder; vertical dipole array construction, 4 elements, each element approximately 10 in. lg, rotating type array; motor driven type w/ Electric Indicator Company Motor type no. GLJRJRDZ-600, AC, 115 v, 60 cycles, single phase, 1.45 amp, 82% power factor; aluminum lower housing, fiberglas radome over upper section; mounts to antenna mast; Bendix Radio part/dwg no. OR650001-1.	
A101	3	BASE, ANTENNA: aluminum; gray enamel finish; holds antenna to mast by means of cap screws, not supplied, 16 mtg holes 0.339 in. dia equally spaced on 4.250 in. radius; marked "J101A", "J101B", "J102", and "J103"; 8 in. lg by 9.25 in. OD; Bendix N691401-1.	antenna base for mtg to mast
A102	2	MAST SECTION: one piece construction; aluminum alloy; gray enamel finish; 10.0 in. dia at base, 8.88 in. dia at top, 22.5 in. high overall; eight 0.332 in. dia bolt holes thru base for mounting; not portable; principal parts c/o-base plate, top plate, housing; Bendix part no. OR281785-1.	ant housing and support
A103		MAST SECTION: sectionalized construction; aluminum mounting, stainless steel tubing, aluminum alloy housing; passivate finish tubing; 8.12 in. dia at base of mounting, 2.500 in. dia at top, 32.68 in. high overall; mounts on top of antenna housing assembly by means of eight 0.344 in. dia mounting holes 45° apart on 3-5/8 in. radius; not portable; principal parts c/o-antenna mounting, tubular mast section; bearing housing; Bendix Radio part no. N281457-1.	houses transmission lines, supports A104
A104	1	ANTENNA SUBASSEMBLY: principal parts c/o-2 dipoles and housings, 1 housing, 2 cross arm sections, 4 radio frequency transmission lines; 14.22 in. lg by 19.40 in. wide by 4.50 in. high overall; mounts by eight no. 10-24 NC-2 tapped holes spaced .450 c to c on 2 in. radius; Bendix Radio part no. OR206549-2.	housing and cross arm section c/o A108, E114 thru E117
A105	3	COVER, ANTENNA: fiberglas mat Owens-Corning M-503; 18.75 in. dia by 33.10 in. high overall; 18.75 in. dia by 1/2 in. thk internal mounting flange on periphery of base containing twenty-four 0.182 in. dia holes on 8.125 in. radius, spaced 15° apart; moisture proof and spraytight; used as a protective cover for antenna; D. S. Kennedy and Co. per Bendix dwg no. N220793-1; Bendix Radio part no. N220793-1.	outside cover for antenna
A106	3	BASE, MOTOR: sand cast aluminum; sandblasted w/anodized finish; holds motor by 4 holes 5/16 in.-18 located on 3.536 in. by 3.536 in. centers, 8 mtg holes no. 10-24 spaced 45° apart in 1 end; 2.62 in. lg by 6.1245 in. OD w/ 1 segment cutoff; Bendix Radio part/dwg no. L228374-1.	mounting for antenna drive
A107	3	SUPPORT, RADOME: 12.75 in. high by 18.75 in. dia; fiberglas mat and laminac resin; haze gray finish; mounts by eight 0.339 in. dia holes spaced 45° apart on 2.5 in. radius, attaches to radome by twenty-four 0.185 in. dia holes spaced 15° apart on 9.125 in. radius; D. S. Kennedy and Co. per Bendix drawing no. N298112; designed to support radome on antenna mast; Bendix Radio part no. N298112-1.	support for A105
A108		ANTENNA SUBASSEMBLY: principal parts c/o-2 dipole housings, 1 housing, 2 cross arm sections, 4 radio frequency transmission lines; over-all dim. 14.22 in. lg, 8.38 in. wide (approx), 4.50 in. high over-all; mounts by eight no. 10-24 NC-2 tapped holes spaced 45° c to c on 2 in. radius; Bendix Radio part/dwg no. OR206549-3.	double dipole support, less dipoles

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
B101		MOTOR, ALTERNATING CURRENT: induction type; 115 v ac, 60 cycles, single phase; 1/12-hp, single take-off shaft, 825 rpm, cw rotation looking at load end; open-frame inclosure; 65°C ambient, 65°C temp rise for continuous operation; ea shaft extension flatted 2 sides; 7.01 in. lg excluding shaft extensions, 4.42 in. w, 4.42 in. high, 0.374 in. dia shaft 1 end, 0.249 in. dia shaft other end, large shaft extends 0.81 in. from frame, small shaft extends 0.56 in. from frame; 3 flexible-lead type terminals; mounts by end plates; 8 mtg holes, 4 in. ea end plate; 0.344 in. dia, on 3.536 in. by 3.536 in. mtg centers, ball bearings have fungus inert seals both sides, lubricated w/ spec no. MIL-G-3278 grease, steel parts except bearings plated to resist salt water; Electric Indicator Co. type no. GLJRJRDZ-600; Bendix Radio part/dwg no. N221096-1.	antenna drive
C101		p/o E114. Not replaceable.	
C102		p/o E114. Not replaceable.	
C103		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 6 uf capacitance, ±10% tolerance; 600 v dc working; metal, hermetically sealed case; case dim; ref dwg group 1; 2-1/2 in. w, 1-3/16 in. deep, 4-3/4 in. high; 2 solder lug type terminals, 3/4 in. high, located on top, spaced 1-1/8 in. c to c; impregnated per spec no. JAN-C-25; no internal ground connections; mounts by 2 brackets not incl; JAN-C-25, type no. CP70B1DF605K.	for B101
C104		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section 100,000 uuf capacitance ±10% tolerance 400 working v dc; metal, hermetically sealed case; case dim ref dwg group 1; 1-5/16 in. w, 49/64 in. deep, 1-1/16 in. high; 2 solder lug type terminals 3/4 in. high, located on top, spaced 5/8 in. c to c; impregnated per spec no. JAN-C-25; no internal ground connections; channel mounted by 2 slots 0.156 in. w, spaced 1-15/16 in. c to c; JAN-C-25, type no. CP63B1EE104K.	calibration tuning, L105
E101		BRUSH, ELECTRICAL CONTACT: rectangular shape, 0.56 in. lg by 0.155 in. wide by 0.155 in. thick over-all; w/pressure spring and shunt; 1.31 in. lg; straight end, concave contact face; mounts in holder; silver graphite composition by Graphite Metalizing Corp; Graphite Metalizing Corp. drawings no. S1241-2, S1521; Bendix Radio part/dwg no. C293378-2.	contact, ground
E102		Same as E101.	contact, sense
E103		p/o G101. Not replaceable.	
E104		CONTACT, ELECTRICAL: p/o radio frequency coil; spring silver contact surface; over-all dim, 0.78 in. lg, 0.312 in. w, 0.060 in. high; 2 mtg holes 0.098 in. dia, spaced 0.180 in. c to c; contact formed on 0.268 in. radius; Bendix Radio part/dwg no. C294001-1.	coil contact for L101, L102, L103, L104 (qty. of 6 required)
E105		COIL, REPRODUCER HEAD: single winding, layer wound; 500 mh inductance, 1000 ohms resistance, 8100 turns approximately, no. 39 formex F wire; terminal data 2 solder lug type terminals located on side of coil form; 1.62 in. lg, 1.28 in. dia body, dim excluding terminals; natural plastic, MIL-P-15047/NPG insulation; mounts by mounting clamp, clamp not included; Bendix Radio part no. C215462-1.	coil for L105
E106	3	CAP, ELECTRICAL: aluminum alloy; etched finish; 1-7/16 in. dia by 0.35 in. deep body; mounts by 1-7/16 in.-16 by 0.26 in. lg male thread; incl screwdriver slot in spherical top; incl axial hole 1 dia by 0.120 in. deep; Bendix Radio part/dwg no. A237162-1.	retainer for magnet E109
E107	3	NUT, PLAIN, KNURLED: aluminum alloy per Fed spec QQ-A-325; etched finish; semi-finished machining, chamfered bearing surface; 1-7/16 in.-16 NS thread, class 2 fit; 1.60 in. OD, 0.50 in. over-all height; ID finished as follows-1-7/16 in.; 16 thread by 0.346 in. lg, 1.49 in. dia by 0.074 in. lg, 1.160 in. dia by 0.080 in. lg; Bendix Radio part/dwg no. A249804-1.	for L105
E108		CORE, ADJUSTABLE TUNING: 0.875 in. lg, 0.256 in. dia; mounts by setscrew not furnished; Stackpole Carbon Co. St. Marys, Pa. grade no. S49 per Bendix Radio dwg no. A215364-1.	core for L105

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E109		MAGNET, PERMANENT: cast alnico; black synthetic finish; 2000 gauss min flux density; 0.88 in. dia magnet face; cylindrical shape; 1.00 in. lg by 0.88 in. dia over-all; mounts inside of coil, retained by a cap not furnished; marked "N" on side of north pole end; chamfered both ends; Bendix Radio part/dwg no. A235805-1.	provides magnetic field for L105
E110	3	HOLDER, BRUSH: brass; silver plated finish; spring loaded brush is held in place by taper of brush cavity, mounts by two 0.161 in. dia holes 1.00 in. c to c; supports contact brushes on antenna shaft assy; Bendix Radio part no. C280338-1.	for E101
E111	3	HOLDER, BRUSH: brass w/ natural plastic support block; silver plated finish; spring loaded brush is held in place by taper of brush cavity, mounts by two 0.161 in. dia holes 1.00 in. c to c; supports contact brushes on antenna shaft assy; Bendix Radio part no. C280338-2.	for E102
E112		CAP, ELECTRICAL: brass; silver plated finish; 0.430 in. lg by 0.375 in. dia body; mounts by 5/16 in.-32 internal thread; knurled, incl slot in top; Bendix Radio part/dwg no. A237262-1.	cap for E110, retains E101
E113		Same as E112.	cap for E111, retains E102
E114		ANTENNA SUBASSEMBLY: principal parts c/o 2 rf transmission line sections, 3 collector rings, miscellaneous insulator rings and discs, 2 rotor capacitor assy, 1 shaft subassembly, 2 rf transmission line section assy, 1 fixed capacitor assy; 34.68 in. lg by 1.52 in. dia over-all; fits into and is supported by mast section of antenna; Bendix Radio part/dwg no. N281612-1.	ant drive shaft
E115		ANTENNA SUBASSEMBLY: principal parts c/o 1 tubing, 1 mtg, 1 rf transmission line, 2 insulator rings, 1 retaining ring, 1 bracket; 9.84 in. lg by 2.06 in. dia over-all; mounts within dipole housing retained by collar and bracket; Bendix Radio part/dwg no. L207740-1.	half dipole
E116		Same as E115.	half dipole
E117		Same as E115.	half dipole
E118		Same as E115.	half dipole
E119		Not used.	
E120		RING ASSEMBLY, COLLECTOR: 2 collector rings, 0.500 in. wide by 1.500 in. ID and 1.781 in. OD; 2 terminals, RF transmission line type; mounts by three 8-32 thread tapped holes located 120° apart located on 3.234 in. OD retainer ring; 1.375 in. lg by 3.234 in. dia over-all; Bendix Radio part/dwg no. C207707-1.	pick up ring for ant sense voltage
E121	3	INSULATOR, TRANSPOSITION: plastic material, General Electric Co., textolite no. 1422 or equivalent; no voltage rating; flatted cap shape, ref dwg group 9; similar to item code no. 329, ref dwg group 9; dim, ref dwg group 9; 1.50 in. dia, 0.312 in. high, has two 0.218 in. dia holes spaced 0.536 in. c to c; flange mounted; incl 2 radial set screw holes 0.128 in. dia spaced 180° apart on body; Bendix Radio part/dwg no. A293370.	ant lead
E122		Same as E121.	ant lead
E123	3	INSULATOR, BUSHING: teflon material; no voltage rating; rd, flat w/ flange shape, ref dwg group 9; similar to item code no. 210, ref dwg group 9; 1.106 in. ID, 1.23 in. OD, 0.28 in. lg high; cement mounted by 1.106 in. dia surface; no rated strength; incl 2 through holes 0.280 in. dia spaced 0.536 in. c to c; Bendix Radio part/dwg no. A243957.	for ant lead
E124		Same as E123.	for ant lead
E125	2	INSULATOR, WASHER: teflon material; rd, flat shape, ref dwg group 9; item code 209, ref dwg group 9; dim, ref dwg group 9; 1.904 in. OD, 0.234 in. ID, 0.250 in. thk; mounts by ID; Bendix Radio part/dwg no. A243951-1.	for E116
E126		Same as E125.	for E117
E127		Same as E125.	for E118
E128		Same as E125.	for E115

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E129		CONTACT ASSEMBLY, ELECTRICAL: p/o rotary relay; contacts are coin silver rivets the heads of which are conducting points; 6 points of coin silver 0.125 in. dia by 0.062 in. high; 1.10 in. lg by 2.10 in. dia over-all; 6 terminals, solder post type, located on inside of contact assy; 0.250 in. bore in which plate accommodates shaft of rotary solenoid, shaft pinned to plate; assembly c/o 1 contact assembly, 4 resistors, 1 switch plate; Bendix Radio part/dwg no. L281781-1.	for sense pattern voltage
E130		CONNECTOR, ADAPTER: contact data, 1 rd female, 1 rd male; angle type; 90° angle; over-all dim, 1.942 in. lg excluding protruding contact, 1.50 in. wide across flats, 2.45 in. high; radio frequency connector; body data - "L" shape, brass, silver plated, locking type; polyethylene insert; 1.50 in. wide across flats coupling nut one end, 1-1/4-18 NS-2 external thread other end, 1-1/4-18 NS-2 coupling nut thread; spec no. MIL-C-3650, type no. UG-216/U.	for P101B
G101		GENERATOR, ALTERNATING CURRENT: 9 v output, 15 cycles, 2 phase, p/m 0.9 v, 0.02 watts output per phase, 900 rpm, 100% power factor; closed frame enclosure; style F; exciter is not included; ambient temp −55°C to +65°C, temp rise for continuous or duty cycle operation not specified; 3.38 in. lg by 3.01 in. dia over-all, excluding shaft; flatted type shaft 0.2495 in. dia by 1.475 in. lg from plane of frame; accessories c/o mounting plate, tone wheel; horizontal, fixed mounting w/ four 0.189 in. dia holes on 0.928 in. mounting centers; Bendix Radio part/dwg no. L281504-1.	indicator calibration
H101		PLATE, MOUNTING, CAPACITOR: material per spec no. JAN-C-25; finish per spec no. JAN-C-25; holds capacitor by means of "J" shaped top, single mtg stud no. 10-32 by 5/8 in. min lg; 4-3/4 in. lg excluding stud by 29/32 in. wd by 0.045 in. material thickness; spec JAN-C-25; type no. CP07SB6.	for C103 (2 bkts)
E131		CONNECTOR, ADAPTER: 1 male, 1 female contact, rd; 90° angle; 1.47 in. lg, 1.29 in. wide, 25/32 in. dia; 500 v peak contact rating 50 ohms nominal impedance, constant impedance characteristic; cylindrical silver plated body; teflon insert; 25/32 in. OD coupling nut, 5/8-24 NEF-2 internal thread on coupling nut, 5/8-24 NEF-2 external thread at other end for coupling. Type no. MIL-UG-27B/U.	
H102		CLAMP, ELECTRICAL: aluminum alloy; cadmium plated finish; 1 screw type fastening device; 1-3/16 in. lg 1-9/16 in. dia over-all; mounts by clamping on cable; designed to hold cable 3/4 in. min dia; utilized as adapter between AN type connector and cable; MIL spec no. MIL-C-5015, spec type no. AN3057-12.	for P102
H103	2	PLATE, MOUNTING, CAPACITOR: steel; cadmium plated finish; holds capacitor by "U" shaped portion of plate; 2 mtg slots 0.32 in. lg by 0.16 in. w spaced 1.250 in. c to c; 2 in. lg by 1.952 in. w by 0.62 in. high; Bendix Radio part/dwg no. C298013-1.	for C103
H104	2	PLUG, MACHINE THREAD: Army-Navy type no. AN814-2; bleeder and drain plug for antenna mounting; steel, cad pl; rd shape; 0.546 in. lg by 0.563 in. across flats of hex head; has 1/8 in. hole 0.281 in. deep from bottom of plug intersected by 0.062 in. hole which extends throughout length of plug; Parket Appliance Co. per Bendix Radio part/dwg no. C234269-2; Bendix Radio part/dwg no. C234269-4.	plug for draining
J101		CONNECTOR, ADAPTER: 2 rd female contacts, 1 on each end; straight type; over-all dim, 2.202 in. lg, 1-9/16 in. w, 1-9/16 in. high, cylindrical shape, brass, silver plated finish, locking type body; polyethylene insert; 4 holes, 0.196 in. dia, 1-3/16 in. by 1-3/16 in. c to c for mtg; 1-1/4 in.; 18 coupling thread for mating w/ coupling nut on 1 end 5/8 in.; 24 coupling thread for mating w/ coupling nut other end; weatherproof; Navy dwg no. RE49F388, type no. UG-271/U.	ant signal output for P101A, P101B

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
J102		CONNECTOR, RECEPTACLE: 14 female rd contacts; polarized; straight type; over-all dim, excluding protruding terminals; 1-11/32 in. lg, 1-1/2 in. w, 1-1/2 in. high; 6 contacts rated 20 amp, 200 v dc, 150 v ac; 8 contacts rated 20 amp, 70 v dc, 50 v ac; cylindrical body, aluminum alloy, cadmium plated finish, locking type; any acceptable insert material per spec no. MIL-C-5015; 4 holes 0.120 in. dia on 1-5/32 in. by 1-5/32 in. mtg centers, 1-1/4 in.; 18 coupling thread on receptacle for mating w/ coupling nut; spec MIL-C-5015 type no. AN3102A-20-27S.	power and ref voltage for P102
J103		CONNECTOR, RECEPTACLE: 16 male rd contacts; polarized; straight type; over-all dim, excluding protruding terminals, 1.359 in. lg, 1.750 in. w, 1.750 in. high; 2 contacts rated 35 amp at 200 v dc, 14 contacts rated at 20 amp 200 v dc; cylindrical shape w/ sq mtg flange, aluminum, cadmium plated finish, locking type body; synthetic rubber insert; 4 holes, 0.177 in. dia on 1.375 in. by 1.375 in. mtg centers, 1-1/2 in.; 18 coupling thread for mating w/ coupling nut; waterproof; Scintilla Magneto Div of Bendix Aviation Corp. part no. 10-42224-7P; Bendix Radio part/dwg no. N287026-18.	ant power for P103
K101		ELECTROMAGNETIC ACTUATOR: rotary type moving element; rotary motion, 90° arc stroke; 28 v dc operating voltage, 0.750 amp release current, 41 ohms dc resistance, non-polarized, ungrounded coil; 2 terminations wire lead type; 3.51 in. lg by 2.01 in. wide by 2.40 in. high over-all; two 0.204 in. mounting holes 3.125 in. c to c on mounting plate; includes rotating plate w/ contacts and associated components; actuated only when sense pattern is desired; Bendix Radio part no. L280040-1.	ant sense actuator
L101		COIL, RADIO FREQUENCY: over-all dim; 1.06 in. lg, 1.042 in. wd, 0.062 in. thk; 3 holes for terminals; mounts by terminal holes, 2 no. 2-56 NC-2 spaced 0.180 in. c to c in 1 leg, one 0.098 in. dia in other leg; "U" shaped silver-plated brass form; Bendix Radio part/dwg no. C215470-1.	ant coil
L102		Same as L101.	ant coil
L103		Same as L101.	ant coil
L104		Same as L101.	ant coil
L105	1	COIL, MARKER GENERATOR: single winding, layer wound; 290 mh inductance, 600 ohms dc resistance, 6000 turns, approx, no. 38 (Formex F); 2 solder lug type terminals located 60° apart on circumference of coil at one end; 2.13 in. lg by 1.60 in. dia body, excluding terminals; powdered iron core; held in place by mounting clamp, not furnished; Bendix Radio part/dwg no. L215355-1.	generates marker ref V for CRT calibration c/o E105, E106, E107, E108, E109
O101	2	PACKING, PREFORMED: silicone rubber; style no. 1, ref dwg group 76; nom dim, ref dwg group 76; 15.625 in. ID, 15.875 in. OD, 1/8 in. thk; 70 durometer rating; not rated for density; gray; Linear Inc compound no. ZM70-0 per Bendix Radio part/dwg no. C235089-9.	for sealing A105
O102		Not used.	
O103		PACKING, PREFORMED: nonmetallic synthetic compound; spec MIL-P-5516A class B; style no 1, ref dwg group 76; nom dim, ref dwg group 76; 6-1/4 in. ID, 6-3/4 in. OD, 1/4 in. thk; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; MIL-P-5516A, type no. AN6227B-65; Bendix Radio part/dwg no. L232807-65.	seal for A103
O104		PACKING, PREFORMED: nonmetallic synthetic compound; spec MIL-P-5516A class B; style no. 1, ref dwg group 76; nom dim, 1/4 in. ID, 3/8 in. OD, 1/16 in. thk; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; spec MIL-P-5516A type no. AN6227B-5; Bendix Radio part/dwg no. L232807-5.	for H104
O105	2	GASKET: for coaxial connector; neoprene, 30-40 durometer; 5 holes total, clearance hole 1.18 in. dia, 4 mtg holes 0.189 in. dia on 1.187 in. by 1.187 in. mtg centers; sq, 1.56 in. lg by 1.56 in. w by 0.031 in. thk; corners rounded on 0.18 in. radius; Bendix Radio part/dwg no. C235324-8.	seal for J101

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O106	2	GASKET: for AN connector size no. AN3102-24; neoprene, 30-40 durometer; 5 holes total, clearance hole 1.562 in. dia, 4 mtg holes 0.161 in. dia on 1-3/8 in. by 1-3/8 in. mtg centers; sq, 1-3/4 in. lg by 1-3/4 in. w by 0.062 in. thk; corners rounded on 0.18 in. radius; Bendix Radio part/dwg no. C235324-2.	seal for J103
O107	2	PACKING, PREFORMED: nonmetallic synthetic compound per spec MIL-P-5516A class B; style no. 1, ref dwg group 76; nom dim, ref dwg group 76; 7-1/4 in. ID, 7-3/4 in. OD, 1/4 in. thk; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; spec MIL-P-5516A type no. AN6227B-69; Bendix Radio part/dwg no. L232807-69.	seal for A101
O108	2	PACKING, PREFORMED: nonmetallic synthetic compound per spec MIL-P-5516A class B; style no. 1, ref dwg group 76; nom dim, ref dwg group 76; 5-1/2 in. ID, 6 in. OD, 1/4 in. thk; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; spec MIL-P-5516A type no. AN6227B-60; Bendix Radio part/dwg no. L232807-60.	seal for A107
O109		BEARING, BALL, ANNULAR: ground; single row; radial; nonloading groove; self-contained; both rings flush; 20 mm bore dia; 42 mm OD; 12 mm wide over-all; 2 synthetic contact type seals; retainer type; pressed construction; steel; ABEC-1 tolerance; std internal fit; MIL-G-3278 lubricant; Fafnir Bearing Co. part no. 9104PP-FS160; Bendix Radio part/dwg no. C240211-5.	for ant drive shaft
O110		BEARING, BALL, ANNULAR: ground; single row; radial; nonloading groove; self-contained; both rings flush; 25 mm bore dia; 52 mm OD; 0.8125 in. wide over-all; 2 synthetic contact type seals; retainer type; pressed construction; steel; ABEC-1 tolerance; std internal fit; MIL-G-3278 lubricant; Fafnir Bearing Co. part no. W205PP-FS160; Bendix Radio part/dwg no. C240211-6.	for ant drive shaft
O111		COUPLING, SHAFT, FLEXIBLE: shock absorbent coupling; c/o two similar hubs and one spider; metal parts are chromium plated steel, shock absorbing spider is neoprene; with an applied torque of 3 in. lb the coupling shall not deflect more than 0.8°; cylindrical shape; 1.625 in. lg by 1.094 in. dia over-all; mts to shaft by 0.500 in. hole and two 1/4-20 hex socket set screws one end, and by 0.375 in. hole and two 1/4-20 hex socket setscrews other end; spider has tight pressure fit to prevent backlash; Bendix Radio part no. C681186-1.	couples B101 to ant drive
O112		COUPLING, SHAFT, FLEXIBLE: rubber bushing type; brass; dull black enamel finish; 1/16 hp at 1750 rpm; for rd type shaft, 0.250 in. dia; 13/16 in. OD by 1-3/8 in. lg over-all; set screw mounted w/ 2 holes ea end for no. 10-24 set screw; rubber bushing 43-48 durometer rating, set screws not furnished; Lord Mfg Co. part no. J-1211-1-111; Bendix Radio part/dwg no. C239555-6.	couples B101 to G101
O113	2	RING, RETAINER: aluminum alloy, etch finish; 2-1/8 in.; 16 int thd for mtg; 0.72 in. thk; 2.220 in. OD by 1.69 in. ID; knurled outside; p/o Army-Navy ANTENNA AS-514/URD-4; Bendix part/dwg no. A238880.	retainer for E116
O114		Same as O113. Bendix no. A238880	retainer for E117
O115		Same as O113. Bendix no. A238880	retainer for E118
O116		Same as O113. Bendix no. A238880	retainer for E115
O117		Not used.	
O118	2	NUT, PLAIN, KNURLED: aluminum alloy per Fed spec QQ-A-325; etched finish; unfinished; thread data 2-1/2 in., 16 NS, class 2 fit thread; 2.75 in. OD by 1.21 in. over-all height; ID finished as follows; 2.53 in. dia by 0.45 in. lg, 2-1/2 in.; 16 thread by 0.58 in. lg, 2.38 in. dia by 0.09 in. lg, 1.800 in. dia by 0.09 in. lg, incl radial holes no. 4-40 NC-2 on circumference for setscrew; Bendix Radio part/dwg no. C238964-1.	collar for mast
O119		CAP: aluminum; sand blast finish; 1-7/16 in. dia by 7/16 in. deep body; mounts by 1-1/4 in.-18 internal thread; incl soft rubber washer and brass, nickel-pl chain 4-5/8 in. lg w/ hole 0.167 in. dia in free end; American Phenolic Corp part no. 9760-20; protective cover for size no. 20 AN type receptacles; Bendix Radio part/dwg no. C232933-20.	for J101

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O120		CAP: aluminum; sand blast finish; 1-11/16 in. dia by 7/16 in. deep body; mounts by 1-1/2 in.-18 internal thread; incl soft rubber washer and brass, nickel-plated chain 4-5/8 in. lg w/ hole 0.167 in. dia in free end; American Phenolic Corp part no. 9760-24; protective cover for size no. 24 AN type receptacles; Bendix Radio part/dwg no. C232933-24.	for J103
O121		Not used.	
O122	2	COVER, ELECTRICAL RELAY: aluminum alloy; etch finish; 4.50 in. dia by 1.66 in. high body; eight 0.136 in. dia holes spaced 45° apart on mounting flange; used as protective cover for rotary relay; Bendix Radio part/dwg no. C298843-1.	for rotary relay K101
O123		SPRING: torsion type; for rotary solenoid; stainless steel no. 302; 0.012 in. by 0.125 in., unfinished; 0.19 in. thk by 1.06 in. nominal OD; 8-1/4 turns; RH turns; one 0.045 in. h hook term on OD and 1 flat term in ctr for mtg to flated shaft of solenoid, term indexed 45°; George H. Leland dwg no. B-6668; Bendix Radio part no. C681090-1.	return spring for K101
O124		Same as O106.	
P101A		CONNECTOR, PLUG: 1 male rd contact; straight type; over-all dim, 1-3/4 in. lg, 13/16 in. dia; contacts electrically rated at 500 v peak; rf connector, 50 ohms nom impedance; cylindrical shape, brass, silver-plated finish, locking type body; polystyrene insulator; 0.212 in. dia max cable opening; 13/16 in. OD coupling nut w/ 5/8 in.-24 coupling nut thread; weatherproof; Navy dwg no. RE49F569, type no. UG-536/U; Industrial Products Co. part no. 34000.	ant signal to J101
P101B		CONNECTOR, PLUG: 1 outer female rd contact; straight type; over-all dim approx 3-5/16 in. lg, 1-5/8 in. dia; contacts electrically rated at 5000 v peak; rf connector, 50 ohms nom impedance; cylindrical shape, brass, silver-plated finish, locking type body; cable dielectric utilized as insert; 1 in. dia max cable opening; 1-1/2 in. w hex coupling nut w/ 1-1/4 in.-18 coupling nut thread; weatherproof; center conductor of cable utilized as male center contact; MIL-C-3650, type no. UG-154/U.	ant signal to J101 (Equip list)
P102		CONNECTOR, PLUG: 14 male rd contacts; polarized; straight type; 2-3/16 in. lg by 1-15/32 in. dia over-all; 6 contacts rated 20 amp at 200 v dc, 8 contacts rated 20 amp at 70 v dc; cylindrical body, aluminum alloy, cadmium plated finish, locking type; any acceptable insert material per spec no. MIL-C-5015; 1-15/32 in. OD coupling nut for mtg, 1-1/4 in.-18 coupling nut thread; 1-3/16 in.-18 conduit thread on conduit hub; MIL-C-5015, type no. AN3106A-20-27P.	ant power to J102
P103		CONNECTOR, PLUG: contact data; 16 rd female; polarized; straight type; over-all dim; 1.531 in. lg, excluding terminals, 1.862 in. dia; contact electrical ratings; two 35 amp, fourteen 20 amp; body data; cylindrical shape, aluminum, cadmium plated, locking type; synthetic rubber per U.S. Army spec no. 20-116; mounting data; 1.862 in. OD coupling nut, 1-1/2-18 NEF-2 coupling nut thread, 1-3/8-18 NEF-2 external thread for mtg; Scintilla Magneto Div. part no. 10-42624-7S; Bendix Radio part/dwg no. N287024-17.	power input to J103
R101		RESISTOR, FIXED, FILM: similar to body style no. 110, ref dwg group 2; 82 ohms total resistance, ±1% tolerance; 1/2 w, 500 v standard rating, 350 v spec no. MIL-R-10509 rating; carbon film type; temp coef data; 0.03% of total resistance per deg C temp coef, from −55°C to +85°C; body dim; ref dwg group 2; 1/2 in. lg, 0.125 in. dia, 0.162 in. dia over-all; lacquer coating, resistant to humidity; 2 axial wire lead type terminals; non-inductive w/o spiral grooves; Wilkor Products Co. Inc. type no. CPSE-1/2-W-65; Bendix Radio part/dwg no. L220530-1.	ant sense network
R102		Same as R101.	ant sense network
R103		Same as R101.	ant sense network
R104		Same as R101.	ant sense network

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
T101		COUPLER, TRANSMISSION LINE: rectangular waveguide type; 225 to 400 mc frequency range; 200 ohms input, 50 ohms output impedance; 1 pin hole for soldering conductor at 1 end; 1 cable at other end; bronze; silver-plated finish; over-all dim, excluding cable, 10.12 in. lg, 1.75 in. w, 1.78 in. high; 2 mtg holes 0.375 in. dia on 1.5000 in. mtg centers located on top 2.625 in. front input end, and 2 mtg holes 0.213 in. dia on bottom in line w/ holes on top; Bendix Radio part/dwg no. C206363-1.	couples receiver to antenna
W101	5	LINE SECTION, RADIO FREQUENCY TRANSMISSION: aluminum alloy; etched finish; mounts by axial hole no. 4-40 in 1 end, and by radial hole no. 4-40 in other end; 4.500 in. lg by 0.281 in. dia over-all; straight w/ 1 end reduced to 0.217 in. dia by 0.28 in. lg starting 3.844 in. from other end then double flatted to 0.125 in. thk to end, incl 2 radial holes 0.098 in. dia in flatted end; Bendix Radio part/dwg no. A237535-1.	open air transmission line
W102		Same as W101.	open air transmission line
W103		Same as W101.	open air transmission line
W104		Same as W101.	open air transmission line
W105		p/o E114. Not replaceable.	
W106		p/o E114. Not replaceable.	
W107		p/o E114. Not replaceable.	
W108		p/o E114. Not replaceable.	
TB101		TERMINAL BOARD: molded black plastic board, spec no. JAN-P-14 type no. MTS-E-1; 14 double screw type terminals less screws; barrier type; over-all dim, excluding terminals, 5-7/8 in. lg, 7/8 in. w, 13/32 in. high; 4 mtg holes 0.160 in. dia on 5-5/8 in. by 5/16 in. mtg centers; Jones, Howard B. Div of Cinch Mfg Co. part no. 14-140A-C; Bendix Radio part/dwg no. C60854-14.	interconnection for L105, G101, B101, etc
201 thru 699		RECEIVER RADIO: will provide direction finding information with any type of signal up to 60 kc bandwidth, also provides AM amplification, demodulation and headphone reception for communication; 225.0 thru 399.9 mc, single band, 1750 fixed frequency channels, each channel spaced 1/10 mc apart; operating power requirements, ac, 26 v, 60 cycle, single phase, 54 w plus intermittent heaters; dc, 26 v, approximately 1 amp; 26 v, max 4 amp while tuning; 105 v, 30 ma; 200 v, 200 ma; rack mounted on drawer slides, employs cap screws for securing into receiver case; 23.12 in. deep by 20.94 in. wide by 11.05 in. high; contains 33 tubes; superheterodyne circuit; for operation of visual indicator for obtaining direction finder bearing and for communications; per Navy spec MIL-D-16252, Bendix part/dwg no. OR650056-1.	
B201	1	MOTOR, DIRECT CURRENT: permanent magnet type; operating power requirements, 27.5 nomv dc, 0.65 amp; 1/100 hp; single take-off shaft w/ spur gear, 20,000 rpm, ccw rotation looking at load end; closed frame inclosure; 80°C ambient at sea level; intermittent operation, 3 sec "time on" in ea direction, 54 sec "time off"; 50,000 ft max operating altitude; motor dim data, 1.83 in. lg, excluding shaft, by 1.25 in. nom dia; 0.125 in. dia shaft extending 0.50 in. from frame; 2 solder lug type terminals; end plate mtg; 2 no. 4-40 by 0.187 in. deep mtg holes spaced 0.676 in. c to c; Bendix Radio part/dwg no. C205399-1.	tuning drive c/o B201A, B201B

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
B201A		MOTOR, DIRECT CURRENT: permanent magnet type; operating power requirements, 27.5 v dc, 0.65 amp max; 1/100 hp nominal rating, 1.5 in. oz torque min; shaft data, single take-off, speed 20,000 rpm p/m 15%, ccw rotation; closed frame; 25°C ambient sea level; intermittent operation, on 6 sec, 3 sec one direction, 3 sec opposite direction; off 54 sec; designed for operation up to 50,000 ft; plain shaft; 1-53/64 in. lg by 1-17/64 in. dia; 1/8 in. dia shaft extending 0.47 in. from frame, center of shaft is 5/8 in. from mounting surface; 2 solder lug type terminals; fixed mounting base; 2 no. 4-40 tapped mounting holes spaced 180° apart on 0.676 in. dia circle; center of shaft is same as center of mounting circle; Globe Industries, type no. A-9-A-608-1; Bendix Radio part/dwg no. L221060-1.	p/o B201
B201B		GEAR: spur, SS, passivated; straight teeth; 16 teeth; 64 pitch, .2472 in. PD; 0.278 in. OD by 0.124 in. dia bore by 0.228 in. thk; straight face; mts by bore; Bendix Radio part/dwg no. A238164-3.	p/o B201
C201		CAPACITOR, FIXED, MICA DIELECTRIC: 330 uuf ±5%; 500 v dc working; -20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E331J; Bendix Radio part/dwg no. OC220132-75.	gr filter for V201
C202		CAPACITOR, FIXED, MICA DIELECTRIC: 4,700 uuf ±10%; 500 v dc working; characteristic "B"; molded low-loss material case; 53/64 in. w by 11/32 in. deep by 53/64 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; spec no. JAN-C-5, type no. JAN type no. CM35B472K.	gr filter for V201
C203		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 2500 uuf ±20%; 500 v dc working; variable temp coefficient; uninsulated; 5/8 in. lg by 7/32 in. w across flats; 1 wire-lead type terminal, hex base other terminal; stand-off method of mtg, mtg hole no. 2-56 centered in base; Centralab Div of Globe Union Inc. type no. DA-790-000; Bendix Radio part/dwg no. C220157-2.	cath byp for V201
C204		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 470 mmf ±20%; 300 v dc working; temperature coefficient not specified; molded low-loss bakelite case; 0.52 in. lg by 0.30 in. wide by 0.22 in. thick; 2 wire-lead type terminals located axially; terminal-mounted; Electro Motive Mfg Co., Inc. part no. VCM15B471M 300WV; Bendix Radio part/dwg no. OC220125-39.	cath filter for V201
C205		CAPACITOR, FIXED, CERAMIC DIELECTRIC: case style similar to no. 1 MBCA; ref dwg group 1; 47 mmf ±10%; 500 v dc working; 750 mmf per mf per deg C negative ±120 mmf tolerance; uninsulated; 0.400 in. lg by 0.200 in. dia; 2 radial wire-lead terminals; terminal-mounted; temp compensating type; spec no. JAN-C-20A; JAN type no. CC20UJ470K.	screen byp V201
C206		CAPACITOR, FIXED, MICA DIELECTRIC: 5 uuf ±0.5 uuf; 500 v dc working; -200 to +200 parts per million per deg C temp coefficient; molded low-loss bakelite case; 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C050K; Bendix Radio part/dwg no. OC220133-41.	phase shift gr ckt V201
C207		Same as C204.	plate coupling V201
C208		CAPACITOR, VARIABLE, AIR DIELECTRIC: plate meshing type; 1 section; 7.74 mmf max, 2.28 mmf min capacity; straight line capacity tuning characteristics; 750 v ac; RMS test voltage; 23/32 in. lg by 5/8 in. wide by 3/4 in. high; 1/4 in. lg by 1/4 in. dia w/ 32 threads per in. bushing; 1/4 in. lg by 0.187 in. dia shaft beyond bushing; screwdriver adjustment, 360° rotation, no stop; ceramic base; 2 solder lug type terminals; single hole mounting by 1/4 in. dia bushing; 9 aluminum, nickel-plated plates; E. F. Johnson Co. Catalog no. 160-104-32; Bendix Radio part/dwg no. C219535-3.	osc trimmer V202
C209		Same as C204.	feedback cath V202

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C245		p/o Z203. Not replaceable.	mixer injection trimmer
C246		p/o Z203. Not replaceable.	2nd RF pl trimmer
C247		p/o Z203. Not replaceable.	1st RF pl trimmer
C248		p/o Z203. Not replaceable.	antenna trimmer
C249		p/o Z203. Not replaceable.	antenna padder
C250		Same as C204.	screen byp V205
C251		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf, +100% −0% tolerance; 500 v dc working; variable temp coefficient uninsulated; 0.227 in. dia by 0.375 in. lg; two 0.250 in. lg solder post type terminals; case other terminal, feed-through method of mtg, mtg bushing 0.150 in. dia by 0.100 in. lg; Erie Resistor Corp. type no. 2404; Bendix Radio part/dwg no. C220281-1	test point byp cath V205
C252		Same as C251.	B + decoupling
C253		Same as C204.	heater byp V205, V209
C254		Same as C251.	test point byp gr V206
C255		Same as C251.	heater byp V206
C256		Same as C251.	heater byp V206
C257		Same as C204.	gr coupling V206
C258		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 91 mmf, ±2%; 500 v dc working voltage; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; 0.52 in. lg by 0.30 in. wide by 0.22 in. high; terminal data 2 axial wire-lead type terminals; terminal-mounted; Electro Motive Mfg. Co. Inc. part no. CM15E910G; Bendix Radio part/dwg no. OC220129-62.	IF byp pl V206
C259		Same as C204.	grid byp V207
C260		Same as C204.	grid byp V207
C261		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 10 mmf, ±1 mmf; 500 v dc working voltage; ±200 parts per million per deg C temp coefficient; molded low-loss bakelite case; 0.52 in. lg by 0.30 in. wide by 0.22 in. high; terminal data 2 axial wire-lead type terminals; terminal-mounted; Electro Motive Mfg. Co. Inc. part no. CM15C100J; Bendix Radio part/dwg no. C220132-42.	pl coupling V207
C262		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 15 mmf, ±1 mmf; 500 v dc working voltage; ±200 parts per million per deg C temp coefficient; molded low-loss bakelite case; 0.52 in. lg by 0.30 in. wide by 0.22 in. high; terminal data 2 axial wire-lead type terminals; terminal-mounted; Electro Motive Mfg. Co. Inc. part no. CM15C150J; Bendix Radio part/dwg no. OC220132-44.	cath coupling V207
C263		Same as C251.	heater byp V207
C264		Same as C251.	heater byp V207
C265		Same as C251.	grid byp V207
C266		Same as C251.	pl decoupling V207
C267		Same as C251.	AGC filter
C268		Same as C251.	pl decoupling V208
C269		Same as C262.	pl coupling V208
C270		Same as C262.	cath coupling V208
C271		Same as C251.	grid byp V208
C272		Same as C251.	heater byp V208
C273		Same as C204.	grid byp V208
C274		Same as C204.	grid byp V208
C275		Same as C204.	RF AGC byp

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C276		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 56 mmf, ±10% tolerance; 500 v dc working voltage; –20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; 0.52 in. max lg by 0.30 in. max wide by 0.22 in. max deep; 2 axial wire-lead type terminals; terminal-mounted; Electro Motive Mfg. Co. part CM15E560K; Bendix Radio part/dwg no. OC220133-57.	IF AGC byp
C277		Same as C216.	IF AGC byp
E201	1	RECEIVER SUBASSEMBLY: principal parts c/o 1 intermediate frequency chassis sub-assy, 1 cavity receiver sub-assy, 1 cover; 8.08 in. lg by 3.98 in. wide by 5.56 in. high; mts by three 0.189 in. dia holes spaced 4.97 in. by 1.87 in. c to c on shaft side and by 8-32 tapped hole in bracket; Bendix Radio part/dwg no. L203652-5.	receiver cavity
E202	1	AMPLIFIER, INTERMEDIATE FREQUENCY: 15.325 mc operating frequency; 300 kc bandwidth at 6 db down; 0.4 input to output over-all gain; 3500 ohms input impedance, 52 ohms output impedance; required 200 v dc at 10 ma; 5.44 in. lg by 2.07 in. wide by 3.25 in. high; mounts to RF subsection of receiver; Bendix Radio part/dwg no. N280142-1.	first IF stage
E203	4	INSULATOR, FEEDTHRU: white or clear glass material; 1500 v ac breakdown, feedthrough shape, item code no. 351, ref dwg group 9; 0.220 in. dia by 0.220 in. body lg by 0.687 in. lg over-all; mounts by solder in hole 0.151 in. dia; Hermetic Seal Products Co. part no. 1352; Bendix Radio part/dwg no. A209506.	tie point
E204		Same as E203.	tie point
E205		Same as E203.	tie point
E206	4	TERMINAL, STUD: standoff hermetic seal type; 1500 v ac breakdown; solder connection; kovar terminal, glass insulator; tinned terminal; 0.34 in. lg by 0.280 in. dia; mounts by solder in hole 0.195 in. dia; white insulator; Hermetic Seal Products Co. part/dwg no. 1403-9; Bendix Radio part/dwg no. A209505-9.	tie point (qty of 3 req.)
E207		SHIELD, TUBE SOCKET: brass, silver-plated finish; flat shape w/ 2 mtg feet; 1-1/8 in. lg by 5/16 in. w by 3/4 in. high; mounts by 2 feet ea w/ hole no. 4-40 on 0.875 in. mtg centers; Johnson EF Co. part no. 133-280; Bendix Radio part/dwg no. A243181.	for V209
E208		TERMINAL, STUD: style no. 58, MBCA ref dwg group 21; 12,000 v ac solder connection brass; hot tin dipped; 0.938 in. lg by 0.250 in. across flats of hex base; mounts by no. 4-40 tapped insert 0.187 in. deep; Elcon Mfg Co. part no. TT-19; Bendix Radio part/dwg no. C243900-4.	tie point (qty. of 2 req.)
E209		INSULATOR, BUSHING: laminated plastic material per spec MIL-P-15047/NPG w/ natural color; shoulder type; similar to style no. 90, MBCA ref dwg group 9; 0.170 in. lg by 0.156 in. ID by 0.440 in OD, has 0.281 in. dia by 0.109 in. lg shoulder; mounts by 0.156 in. dia bore; Bendix Radio part/dwg no. C293172-4.	insulator (qty. of 4 req.)
E210	5	SHIELD, ELECTRON TUBE: copper or brass, cylindrical shape; 1.093 in. lg by 0.978 in. wide by 1.500 in. high; friction mounted; spec no. JAN-S-28A; JAN type no. TS103U01.	for V202
E211		SHIELD, ELECTRON TUBE: copper or brass; cylindrical shape; 0.930 in. ID by 1-3/8 in. high; locking keyway mounted; per spec no. JAN-S-28A; JAN type no. TS102U01.	for V201
E212		Same as E211	for V203
E213		Same as E211.	for V204
E214		Same as E211.	for V205
E215		Same as E211.	for V209
E216		Not used.	
E217		Not used.	
E218		ROTOR, CAPACITOR: designed for plate meshing type capacitor; 1 section; 5 plates per section; brass shaft, brass plates; 1.18 in. lg by 0.720 in. w by 0.340 in. h; 0.187 in. shaft dia; Bendix Radio part/dwg no. C204839-1.	rotor for C245
E219		Same as E218.	rotor for C246
E220		Same as E218.	rotor for C247

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E221		Same as E218.	rotor for C248
E222		PLATE, CAPACITOR: brass, silver-plated finish; irregular shape; 0.43 in. lg by 0.44 in. w by 0.25 in. h; mounts by tinned ends of 2 assy rods ea 0.051 in. dia spaced 0.281 in. c to c; 4 plate stator element of variable capacitor; Hammerlund no. 34631; Bendix Radio part/dwg no. C243386-1.	stator for C245
E223		Same as E222.	stator for C246
E224		Same as E222.	stator for C247
E225		Same as E222.	stator for C248
E226	1	SWITCH ASSEMBLY: c/o 1 slide type switch; 1 rotary type switch; common rotary actuator incl; 4.47 in. max lg by 3.84 in. max w by 2.57 in. max h; 2 integral mtg screws no. 8-32 spaced 1.702 in. c to c and 1 mtg hole 0.189 in. dia located 2.875 in. from nearest mtg screw; integral indicator plate marked 225 to 400 mc; Bendix Radio part/dwg no. L281925-1.	frequency selector
E227	1	RECEIVER SUBASSEMBLY: principal parts c/o 1 four gang tuning capacitor and trimmers, 1 coil assy, 3 acorn type tube sockets, 1 miniature 7 pin socket, 1 rf connector; 6.93 in. lg by 5.56 in. w by 3.98 in. h; 3 mtg holes on 0.189 in. dia on 1.875 in. by 4.969 mtg centers; used as receiver cavity, composed of 2 rf, mixer and tripler stages; Bendix Radio part/dwg no. N280116-1.	receiver cavity
E228	1	DRIVE, TUNING: electrically operated; 360° rotation continuous; 27.5 v dc; 1.34 in. lg by 5.71 in. w by 1.665 in. h excluding mtg block; 7 mtg holes no. 8-32 irregularly spaced; rotates variable capacitor and actuates switch assy in receiver; Bendix Radio part/dwg no. OR281999-1.	rf drive
E229	1	RECEIVER SUBASSEMBLY: principal parts consist of 1 capacitor, variable, air dielectric, 1 capacitor-resistor assy, 1 mounting plate assy; 6.92 in. lg by 3.88 in. wide by 5.38 in. high; mounts by three 0.218 in. dia holes 3 in. by 2.8 in. c to c; subassembly of radio frequency 3 gang section; Bendix Radio part/dwg no. OR280135-1.	3 gang assembly
E230		TERMINAL, STUD: style no. 58, ref dwg group 21; 9000 v ac breakdown; solder connection; brass terminal, melamine insulation spec no. MIL-P-14A, type MME; terminal hot tin dipped; 0.844 in. lg by 0.250 in. w across hex flats; mounts by no. 4-40 insert 0.187 in. deep; Elcon Mfg. Co. part no. TT-16; Bendix Radio part/dwg no. C243900-3.	tie point
E231		SHIELD, ELECTRON TUBE: accommodates acorn tube, straight cylinder shape, partially inclosed top; nickel silver; 47/64 in. lg by 0.554 in. w by 0.625 in. h; mounts directly on tube; includes right angle bracket on side w/ single hole 0.063 in. dia; Bendix Radio part/dwg no. C293343.	for V207
E232		RECEIVER SUBASSEMBLY: principal parts consist of 1 electro-mechanical tuning unit, 1 radio frequency-oscillator section, 1 mixer stage, 1 intermediate frequency stage; over-all dim, 10.34 in. lg max by 7.74 in. wide max by 8.258 in. high max; mounts to receiver drawer by two no. 8-32 NC-2 tapped holes 4.30 in. c to c on side, by five no. 8-32 NC-2 tapped holes irregularly spaced on back, and by one 10-24 NC-2 thread captive screw that mounts subassembly to bottom of drawer; does not include tubes and tube shields; used as radio frequency and local oscillator section of receiver; per Navy spec MIL-D-16252; Bendix Radio part/dwg no. OR280244-2.	rf sub-section
H201	2	POINTER, DIAL: brass hub, aluminum alloy pointer; cadmium-plated hub, etched pointer; rotary type motion; 1.31 in. lg by 0.50 in. w by 0.29 in. thk; mounts by axial through hole in hub 0.177 in. dia w/ no. 4-40 setscrew not furnished; Bendix Radio part/dwg no. C281926-1.	for E226
H202	2	SCREW, EXTERNALLY RELIEVED BODY: stainless steel per spec AISI, type no. 303; black oxide finish; hex head w/ slot, 0.18 in. h by 0.375 in. w across flats; 0.163 in. first dia from head, 2.5 in. from bearing surface to end of undercut, 3.00 in. lg; 0.190 (no. 10) in. OD w/ 24 threads per in., NC class 2 fit, 0.50 in. lg; Bendix Radio part/dwg no. L241957-35.	for J203
H203		Not used.	
H204	3	NUT, SELF-LOCKING, HEX: brass, cadmium-plated; semi-finished; self-locking nylon insert; hex head drive, 0.344 in. across flats of hex; 8-32 thread, NCT, class 3 fit; 0.344 in. across flats, 0.17 in. over-all height; Elastic Stop Nut Corp. part no. 92NTM-82; Bendix Radio part/dwg no. C241890-1.	lock-nut

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
J201		CONNECTOR, RECEPTACLE: 1 rd, female contact; 90° angle type; 0.721 in. lg by 0.750 in. wide by 1.0935 in. high; contacts not rated; radio frequency connector; 50 ohms nominal impedance; constant frequency impedance characteristics; elbow shaped brass, silver-plated, locking type body; teflon insert; four 0.136 in. dia by .050 in. deep mtg holes, spaced on 0.531 in. sq mounting center; weatherproof; AN type UG-535/U per Navy dwg no. RE49F568A; AN type no. UG-535/U.	antenna input to receiver
J202		Same as J201.	IF output
J203		CONNECTOR, RECEPTACLE: 1 round, female contact; non-polarized; straight type; 0.781 in. lg excluding protruding terminals by 0.688 in. dia; contact rated 500 v max; radio frequency connector; 52 ohms nominal impedance, non-constant frequency impedance characteristics; cylindrical, half hard brass, silver-plated body; GE no. 1422 Textolite insert; mounting data, 1-3/8 in., 32 thread mounting shank, 0.219 in. lg; Diamond Mfg Co. part no. 952; Bendix Radio part/dwg no. C223390-13.	VFO sample
J204		SOCKET, ELECTRON TUBE: 11 phosphor bronze, silver-plated contacts; small body; round shape; 1-7/8 in. lg by 1-9/32 in. wide by 0.4841 in. deep; mica filled phenolic body; one piece saddle mounting; 1-1/8 in. dia chassis hole required; 2-5/32 in. dia mounting holes, spaced 1-1/2 in. c to c; American Phenolic Corporation, part no. 77-M1P-11TM; Bendix Radio part/dwg no. A113017-8.	test receptacle
K201		RELAY, ARMATURE: spdt, single break contacts rated 125/250 v ac at 5 amp; 1 inductive winding, 150 ohms dc resistance, 27.5 v nom; 3 terminals on contacts, 2 on coil; 1.84 in. lg by 1.09 in. w by 0.94 in. h; 3 no. 4-40 mtg holes on 0.375 in. by 0.375 in. triangular mtg centers; Price Electric Co. part no. 1097-20; Bendix Radio part/dwg no. L218582-1.	high speed clutch
K202		ELECTROMAGNETIC ACTUATOR: linear type; 0.050 in. linear stroke; 27.5 v dc nom, 150 ohms dc resistance, non-polarized; 2 solder lug type terminals, 0.22 in. lg; 1.50 in. lg by 1.10 in. w by 0.94 in. h; 3 no. 4-40 mtg holes on 0.375 in. by 0.375 in. triangular mtg centers; test duty cycle 3 min on, 10 min off; Allied Control Co. Inc., part no. SPX-38; Bendix Radio part/dwg no. L215738-1.	medium speed clutch
K203		ELECTROMAGNETIC ACTUATOR: armature type; 0.050 in. linear stroke 27.5 v dc nom, 180 ohms dc resistance, non-polarized; 2 solder lug type terminals; 0.22 in. lg; 1.44 in. lg by 0.94 in. w by 1.50 in. h; 3 no. 4-40 mtg holes on 0.375 in. by 0.375 in. triangular mtg centers; Price Electric Co. type no. 1097-21; Bendix Radio part/dwg no. L218583-1.	low speed clutch
L201		COIL, RADIO FREQUENCY: 2 mh at 1000 cycles, 20 ohms 150 ma max; approximately 570 turns no. 36 SSE single silk covered enameled copper conductor wound through Amphenol no. 912 Polystyrene solution; one 3 pie universal winding; unshielded; iron core; 7/16 in. dia by 7/8 in. lg each pie; 0.170 in. dia by 0.750 in. lg form; 2 axial wire-lead type terminals; terminal-mounted; Jeffers Electronics, part no. 6501-2; Bendix Radio part/dwg no. C215351-2.	grid filter V201
L202		COIL, RADIO FREQUENCY: 1 single layer winding c/o 7-1/2 turns no. 22 AWG w/ enamel insulation; tapped at 2-1/2 turns; phenolic coil form; powdered iron core; adjustable core, screwdriver adjustment; 0.58 in. max dia by 1.28 in. max lg incl mtg bushing; 3 solder lug type terminals; mounts by 1/4 in, 32 bushing; fungus and moistureproof; Bendix Radio part/dwg no. N215544-9.	osc tank gr ckt V202
L203	2	COIL, RADIO FREQUENCY: 1 single layer winding c/o 4-1/2 turns no. 26 AWG w/ glass braid insulation; air core; 0.50 in. dia by 0.60 in. lg; 2 wire-lead type terminals; terminal-mounted; coil is shielded by seamless copper tubing formed into 4-1/2 turns; Bendix Radio part/dwg no. C215466-1.	tripler pl V203

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
L204	2	COIL, RADIO FREQUENCY: 1 single layer winding c/o 1-1/2 turns 0.032 in. dia conductor; air core; 0.75 in. lg by 0.40 in. w by 0.25 in. high including formed terminals; 2 coil terminations formed into 0.30 in. lg straight lead at 1 end, and into a partial turn on 0.06 in. radius at other end; terminal-mounted; silver-plated w/ water dip lacquer finish; Bendix Radio part/dwg no. C215467-1.	doubler pl V204
L205		Not used.	
L206		p/o Z201. Not replaceable.	IF primary
L207		p/o Z201. Not replaceable.	IF secondary
L208		p/o Z202. Not replaceable.	IF primary
L209		p/o Z202. Not replaceable.	IF link
L210		p/o Z203. Not replaceable.	mixer injection inductance adj.
L211		COIL, RADIO FREQUENCY: 1 single layer winding c/o 3 turns no. 14 AWG; natural plastic coil form; 1.30 in. lg by 0.875 in. w by 0.375 in. deep; 1 solder lug type, 1 rigid wire type terminal; single no. 6-32 mtg hole centered in bottom of coil form; coil is silver-plated; Bendix Radio part/dwg no. C215665-2.	mixer injection coupling
L212		p/o Z203. Not replaceable.	2nd RF pl inductance adj.
L213		p/o Z203. Not replaceable.	1st RF pl inductance adj.
L214		p/o Z203. Not replaceable.	antenna tuning inductance adj.
L215		COIL, RADIO FREQUENCY: 1 single layer winding c/o 38 turns, no. 28 AWG w/ enamel insulation; 0.2 ohm max dc resistance; phenolic coil form; approx. 9/32 in. dia by 11/16 in. lg; 2 wire-lead type terminals; terminal-mounted; min Q of 50 at 10 mc; Jeffers Electronics Corp. part no. 10702-1; Bendix Radio part/dwg no. OC215350-20.	heater choke V206
L216		Same as L215.	heater choke V207
L217		COIL, RADIO FREQUENCY: individual winding data, 1 single layer winding c/o 14 turns, no. 20 AWG w/ enamel insulation; phenolic coil form; 21/64 in. dia by 11/16 in. lg; 2 wire-lead type terminals; terminal-mounted; Jeffers Electronics Corp. part no. 10702-5; Bendix Radio part/dwg no. OC215350-30.	plate choke V207
L218		Same as L217	plate choke V208
L219		Same as L215.	heater choke V208
N201		Not used.	
N202		Not used.	
N203	4	DIAL, SCALE: marked "MEGACYCLES"; 225 to 400 cw range, graduated in increments of 25 covering 162° arc; circular; 2.55 in. dia; two 0.1495 in. dia mtg holes spaced 1.562 in. c to c; 0.094 in. thk natural plastic; Bendix Radio part/dwg no. L247265-1.	
O201	6	GEARCASE-MOTOR: permanent magnet type; 27.5 v dc, 1 amp; 25°C ambient temp at sea level; operates intermittently, when receiver is tuned; open frame; straight take off; 0.125 in. dia by 0.50 in. lg shaft; 1/100 hp motor, gearcase hp not rated; 20,000 rpm rotor speed motor free running, 2,860 rpm output shaft speed of gearcase; gear coupling; dim excluding shaft; 3.08 in. lg by 3.55 in. wide by 1.31 in. high; fixed base mounted; four 0.194 in. dia mounting holes, 2 holes on centerline 2.70 in. c to c, 1 hole 0.625 in. on each side of centerline at distances of 0.98 in. and 1.28 in. from one end; Bendix Radio part/dwg no. N280005-1.	speed reducer for B201
O202		BEARING, BALL, ANNULAR: ground, single row, radial, non-loading groove; self-contained; both rings flush; 0.1875 in. bore by 0.500 in. OD by 0.1969 in. w over-all; 2 steel shields; retainer type, pressed steel construction; ABEC-1 tolerance, std fit; MIL-G-3278 lubricant; New Departure Div of General Motor Corp., part no. 77-R-3-X1E; Bendix Radio part/dwg no. C240186-2.	bearing for drive shaft (3 req.)
O203		Not used.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O204	2	RECEIVER SUBASSEMBLY: principal parts c/o 1 shaft, 1 bearing assy, 1 ball bearing, 1 flexible coupling, 3 worm gears, 4 gear assy, 3 miscellaneous gears; 10.29 in. lg by 1.603 in. w by 0.1872 in. shaft dia; mounts by bearings in housing and by 2 no. 6-32 holes spaced 0.75 in. c to c in integral bearing assy; Bendix Radio part/dwg no. N281953-1.	drive shaft
O205	5	RING, RETAINER: external; beryllium copper, cad pl; "C" shaped; 11/64 in. free ID by 0.015 in. thk; Waldes no. 5100-18; Bendix Radio part/dwg no. HC848Y-188.	for E226
O206	5	RING, RETAINER: int; carbon spring steel, cad pl; 238,000 to 280,000 psi tensile strength; "C" shaped; 0.533 in. free dia by 0.035 in. thk; Waldes no. 5000-50; Bendix Radio part/dwg no. HC847G-500.	for E226
O207		BEARING, BALL: single row radial; double seal, double shield; extra light duty; 1/8 in. bore by 3/8 in. OD by 5/32 in. wd; 7 balls; AN-G-25 grease; std fit; ABEC-1 tol; New Departure no. 77-R-2-XIE; Bendix Radio part/dwg no. C240186-1.	for O201
O208		Same as O207.	for O201
O209		Same as O207.	for O201
O210		Same as O207.	for O201
O211		Same as O207.	for O201
O212		Same as O207.	for O201
O213		GEAR: spur type; phosphor bronze; straight teeth; 48 teeth; 64 pitch, 0.7472 in. pitch dia; 0.7784 in. OD by 0.1876 in. inside bore by 0.062 in. thk; straight face; .38 in. OD by 0.188 in. thk hub; has provision for no. 4-40 NC-2 set screw; Bendix Radio part/dwg no. A238189.	for O201
O214		GEAR ASSEMBLY: c/o spur gear, 18 teeth, 48 pitch, w/ gear, 56 teeth, 64 pitch pressed on OD of hub of 18 tooth gear; 0.9035 in. OD by 1.172 in. lg; brg mtd; Bendix Radio part/dwg no. A202855-4.	for O201
O215		GEAR: spur type; SS, passivate; straight teeth; 24 teeth; 64 pitch; 0.3722 in. pitch dia; 0.4035 in. OD by 1/8 in. thk w/ 0.860 in. lg by 0.117 in. dia shaft; shaft mtg; Bendix Radio part/dwg no. A238184-2.	for O201
O216		GEAR: spur; phosphor bronze; straight teeth; 48 teeth; 64 pitch; 3/4 in. PD; 0.7784 in. OD by 1.125 in. bore dia by 0.19 in. thk; straight face; 0.32 in. dia by 0.160 in. lg hub; mtg by bore w/ one no. 4-40 tapped hole for set screw and one 0.052 in. dia hole for pin; Bendix Radio part/dwg no. A238179-2.	for O201
O217		Same as O202.	for E226
O218		GEAR, HELICAL: worm; phosphor bronze; helical teeth; LH; 20 teeth; 0.8368 in. pitch dia max; 0.9000 in. OD max; 0.5005 in. bore min, 0.064 in. thk max; straight face; mtd to gear hub by ID, held by retaining ring; 0.052 in. hole for spring; Bendix Radio part/dwg no. C238390-1.	for O237
O219		GEAR, HELICAL: worm; phosphor bronze; p/o tuning drive assy; helical teeth; LH; 20 teeth; 0.8368 in. max PD; 0.9000 in. max OD, 0.3155 in. bore, 1.05 in. thk; straight face; hub extends 0.134 in. beyond gear w/ 0.50 in. OD one side and 0.854 in. beyond gear w/ 0.62 in. OD other side; two no. 6-32 NC-2 tap holes spaced 90° apart 0.44 in. from end of hub; Bendix Radio part/dwg no. C238464-5.	for O237
O220		GEAR, HELICAL: worm; phosphor bronze; helical teeth; RH; 20 teeth; 0.8368 in. max PD; 0.9000 in. max OD, 0.1875 in. bore; 0.83 in. thk; straight face; hub extends 0.134 in. beyond gear w/ 0.50 in. OD one side and 0.634 in. beyond gear w/ 0.62 in. OD other side; two no. 6-32 NC-2 tap holes spaced 90° apart 0.37 in. from end of hub; Bendix Radio part/dwg no. C238464-4.	for O236
O221		GEAR, HELICAL: worm; phosphor bronze; helical teeth; RH; 20 teeth; 0.8368 in. pitch dia max; 0.9000 in. OD max, 0.5005 in. bore min, 0.064 in. thk max; straight face; mtd to gear hub by ID, held by retaining ring, 0.052 in. hole for spring; Bendix Radio part/dwg no. C238463.	part of O236

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O222		GEAR, HELICAL: worm; phosphor bronze; helical teeth; RH; 20 teeth; 0.8368 in. max PD; 0.9000 in. max OD, 0.3430 in. bore, 0.50 in. thk; straight face; hub extends 0.134 in. beyond gear w/ 0.50 in. OD one side and 0.304 in. beyond gear w/ 0.62 in. OD other side; two no. 6-32 NC-2 tap holes spaced 90° apart; 0.14 in. from end of hub; Bendix Radio part/dwg no. C238464-1.	part of O238
O223		Same as O221.	part of O236
O224		SPRING: loop type; 0.035 in. dia steel music wire spring; 0.690 in. dia by 0.25 in. lg o/a; ends indexed 90° axially; mtd between two gears to gear hub by ID; Bendix Radio part/dwg no. C239441-3.	for O236
O225		Same as O224.	for O237
O226		Same as O224.	for O238
O227		RING, RETAINING: aluminum alloy, etch finish; rd; 0.195 in. ID; 0.280 in. OD; by 0.085 in. lg; Bendix Radio part/dwg no. A288839.	for H202
O228		RING, RETAINER: external type; steel, cad pl; 3/4 in. dia by 1/32 in. thk o/a; for 1/2 in. dia shaft w/ 0.038 in. wd by 0.474 in. dia groove; Waldes Koh-I-Noor Inc. no. 5100-50; Bendix Radio part/dwg no. HC848G500.	for O236
O229		Same as O228.	for O237
O230		Same as O228.	for O238
O231		Not used.	
O232	5	RING, RETAINER: external; beryllium copper; "C" shaped; 0.112 in. free ID by 0.010 in. thk; mts by ID to 0.117 in. dia by 0.012 in. wd groove in shaft; Waldes Koh-I-Noor part no. 5100-12; Bendix Radio part/dwg no. HU848Y-125.	for O201
O233		Same as O232.	for O201
O234	5	RING, RETAINER: internal type; steel, cad pl; 0.403 in. nominal OD; Waldes Koh-I-Noor part no. 5000-37; Bendix Radio part/dwg no. HC847G-375.	for O201
O235		Not used.	
O236	1	GEAR ASSEMBLY: c/o two worm gears and back lash spring held together by retainer ring; phosphor bronze gears; ea gear 20 teeth; 24 pitch; 0.836 in. pitch diam; 0.90 in. OD by 0.83 in. lg; 0.187 in. ID hole in hub w/two no. 6-32 NC-2 thd holes 90° apart for mtg; Bendix Radio part/dwg no. OC202863-16.	part of RF drive
O237	1	GEAR ASSEMBLY: c/o two worm gears and back lash spring held together by retainer ring; phosphor bronze gears; ea gear 20 teeth; 24 pitch; 0.836 in. pitch dia; 0.90 in. OD by 1.05 in. lg; 0.315 in. ID hole in hub w/ two no. 6-32 NC-2 thd holes 90° apart for mtg; Bendix Radio part/dwg no. OC202863-17.	part of RF drive
O238	1	GEAR ASSEMBLY: c/o two worm gears and back lash spring held together by retainer ring; phosphor bronze gears; ea gear 20 teeth; 24 pitch; 0.836 in. pitch dia; 0.90 in. OD by 0.50 in. lg; 0.343 in. ID hole in hub w/ two no. 6-32 NC-2 thd holes 90° apart for mtg; Bendix Radio part/dwg no. OC202863-18.	part of RF drive
O239		Not used.	
O240		Not used.	
O241		GEAR ASSEMBLY: c/o 1 spur gear; 28 teeth; 48 pitch and 1 spur gear; 42 teeth; 48 pitch; round; 0.9138 in. OD max by 0.531 in. lg by 0.1565 in. bore; mtd by bore; Bendix Radio part/dwg no. A202861-1.	for E228
O242		GEAR ASSEMBLY: c/o 1 spur gear; 14 teeth; 48 pitch and 1 spur gear; 50 teeth; 48 pitch; round; 1.0805 in. OD by 0.594 in. lg by 0.1565 in. bore; mtd by bore; Bendix Radio part/dwg no. A202860-1.	for E228
O243		GEAR ASSEMBLY: c/o two gears; one press fitted on the other and pinned; 1.297 in. lg by 1.0805 in. dia; mounts by 0.1565 in. dia by 1.297 in. lg bore; Bendix Radio part/dwg no. A202859-1.	for E228
O244		BEARING, BALL, ANNULAR: ground; single row; radial; non-loading groove; self-contained; both rings flush; 9 mm bore by 26 mm OD by 8 mm w overall; 2 synthetic material, contact type seals; retainer type; pressed steel construction; ABEC-1 tolerance; std fit; MIL-G-3278 lubrication; New Departure Div of General Motors Corp. part no. 99039-X1E; Bendix Radio part/dwg no. C240157-16.	p/o E227
O245	2	SHAFT: phosphor bronze; cylindrical shape; 0.1555 in. dia by 2.956 in. lg; flatted 7/64 in. thk by 7/32 in. lg 1 end; chamfered both ends; Bendix Radio part/dwg no. A239587-3.	p/o E228

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O246		Not used.	
O247		Not used.	
O248	2	SHAFT: stainless steel, passivate finish; 4.46 in. lg x 0.250 in. max dia; bearing mtd by OD; Bendix Radio part/dwg no. L249640-1.	p/o E226
O249	2	SHAFT: u/w speed reduction unit assembly; SS, passivate finish; cylindrical; 0.77 in. lg by 0.1875 in. dia o/a; Bendix Radio part/dwg no. C249704-1.	part of O201
O250	2	BLOCK, PRESSURE: brass, cad pl; 0.94 in. lg by 0.44 in. w by 0.44 in. h; mtd to shaft by 13/64 in dia by 0.44 in. lg axial hole fastened by no. 4-40 thd set screw and taper pin; Bendix Radio part/dwg no. A237534-1.	p/o E226
O251		Same as O205.	p/o E228
P201		CONNECTOR, PLUG: 1 rd male contact; straight type; 31/32 in. lg by 27/64 in. dia; radio frequency connector; 52 ohms impedance, non-constant impedance characteristic; cylindrical brass, silver-plated; locking type body; teflon insert; accommodates RG-55/U and RG-58/U cable; self-sustaining on end of cable; spec no. MIL-C-71A; MIL type no. UG-88/U.	p/o W601
P202		Same as P201.	p/o W602
P203		Same as P201.	p/o W603
		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1 megohm ±10% 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt-water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF105K.	grid filter V201
R201		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3300 ohms ±10%; 1/2 watt rated at 70°C ambient temp; characteristic "F"; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF332K.	cath bias V201
R202		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1200 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF122K	phase shift gr V201
R203		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF102K.	scr isolation V201
R204		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 6800 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF682K.	plate load V201
R205		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 15,000 ohms ±10%; 1 watt; characteristic "F"; 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity and salt water immersion; 2 axial wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF153K.	plate load V201
R206		Same as R203.	phase shift cath ckt V202
R207		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3900 ohms ±10%; 1/2 watt rated at 70°C ambient temp; characteristic "F"; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF392K.	grid bias V202
		Same as R204.	pl isolation V202
R208		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1500 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF152K.	cath bias V202
R209			
R210			

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R211		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 68,000 ohms ±10%; 1/2 watt rated at 40°C ambient temp; characteristic "F"; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF683K.	grid leak V202
R212		Same as R204.	plate load V202
R213		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 100,000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF104K.	grid leak V203
R214		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 10,000 ohms ±10%; 1/2 watt rated at 70°C ambient temp; characteristic "F"; body dim; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF103K.	scr dropping V203
R215		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 22,000 ohms ±10%; 1 watt; characteristic "F"; 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity and salt water immersion; 2 axial wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF223K.	scr dropping V203
R216		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 3900 ohms ±10%; 1 watt; characteristic "F"; 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity and salt water immersion; 2 axial wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF392K.	pl dropping V203
R217		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 47,000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF473K.	grid leak V204
R218		Same as R214.	scr dropping V204
R219		Same as R215.	scr dropping V204
R220		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 2700 ohms ±10%; 1 watt; characteristic "F"; 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity and salt water immersion; 2 axial wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF272K.	pl dropping V204
R221		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 100,000 ohms ±10%; 1 watt rated at 70°C ambient temp; characteristic "F"; 0.750 in. lg by 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF104K.	V drop pl ckt V206
R222		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 27,000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 axial wire-lead terminals; spec. no. JAN-R-11; JAN type no. RC20GF273K.	bleeder pl ckt V206
R223		Same as R201.	suppressor decoupling V209
R224		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 220 ohms ±10%; 1/2 watt rated at 70°C ambient temp; characteristic "F"; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF221K.	cath bias V209
R225		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 6800 ohms ±10%; 2 watt rated at 70°C ambient temp; characteristic "F"; 0.750 in. lg by 0.370 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC42GF682K.	pl + scr dropping V209
R226		RESISTOR, FIXED, WIREWOUND: body style no. 20, ref dwg group 2; inductive winding; 1600 ohms ±5%; 10 watt rated at 275°C max continuous operating temp, 25°C ambient temp; 1-1/2 in. lg by 19/32 in. dia over-all by 5/16 in. ID; coating per spec. no. MIL-R-26B; resistant to moisture after thermal shock in air; 2 tab type terminals, approx 21/64 in. lg by 21/64 in. max w; mtg hardware c/o 1 bolt and 2 metal plates provided; spec. no. MIL-R-26B; JAN type no. RW31G162.	pl dropping

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R227		Same as R226.	pl dropping
R228		Same as R213.	grid leak V205
R229		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 270 ohms ±10% 1/2 watt rated at 40°C ambient temp; characteristic "F"; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF271K.	test point divider
R230		Not used.	
R231		Same as R204.	pl and scr isolation V205
R232		Same as R222.	scr dropping V205
R233		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 12,000 ohms ±10%; 1 watt rated at 70°C ambient temp; characteristic "F"; 0.750 in. lg by 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF123K.	plate load V205
R234		Same as R213.	grid leak V206
R235		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1,000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF102K.	test point filter V204
R236		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 15,000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF153K.	test point divider gr ckt V206
R237		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 150 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF151K.	cath bias V207
R238		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 10,000 ohms ±10%; 1/2 watt rated at 40°C ambient temp; characteristic "F"; body dim; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF103K.	grid filter V207
R239		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1800 ohms ±10%; 2 watt rated at 70°C ambient temp; characteristic "F"; 0.750 in. lg by 0.370 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC42GF182K.	pl dropping V207
R240		Same as R238.	AGC filter
R241		Same as R239.	pl dropping V208
R242		Same as R238.	grid filter V208
R243		Same as R237.	cath bias V208
R244		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 220,000 ohms ±10%; 1/2 watt; characteristic "F"; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF224K.	IF AGC filter
R245		Same as R201.	IF AGC filter
R246		RESISTOR, FIXED, COMPOSITION: 1.5 meg, total resistance, ±10%; 1/2 watt; characteristic "F"; 0.375 in. lg by 0.138 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. MIL-R-11A; MIL type no. RC20GF155K.	AVC filter
S201		p/o K201. Not replaceable.	clutch interlock
S202		SWITCH, SENSITIVE: 3 pole dt; rated 125 v ac max at 5 amp for nom load; metal basic switch body; 2.18 in. lg by 0.620 in. w by 1.66 in. h body; sliding arm type actuator w/ 0.38 in. total travel; 16 oz max operating force; locking action; 9 solder lug type terminals; two no. 5-40 mtg screws spaced 0.375 in. c to c; Comar Electric Co. part no. C-4394; Bendix Radio part/dwg no. L218461-1.	reversing switch for B201
S203		SWITCH SUBASSEMBLY: consists of 1 rotary wafer with contacts; 1.90 in. lg by 1.73 in. high max by 0.12 in. thick wafer; two 0.157 in. dia mtg holes spaced 1.562 in. c to c; moisture proof and salt water resistant; Oak Mfg Co. Type no. 54388DH; Bendix Radio part/dwg no. C293131-2.	sector selecting

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
V201		ELECTRON TUBE: pentode; glass RMA envelope T-5-1/2; 7 pin type terminations located on bottom; receiving tube; spec. no. JAN-1A; JAN type no. 5654/6AK5W.	reactance control
V202		ELECTRON TUBE: twin triode; glass RMA envelope T-6-1/2; 9 pin type terminations located on bottom; receiving tube; spec. no. JAN-1A; JAN type no. 5670.	osc and isolation amplr
V203		Same as V201.	frequency tripler
V204		Same as V201.	frequency doubler
V205		Same as V201.	frequency doubler
V206		ELECTRON TUBE: glass envelope; uhf triode oscillator; spec. no. MIL-E-1B. JAN type no. 6F4.	mixer
V207		Same as V206.	2nd RF amplr
V208		Same as V206.	1st RF amplr
V209		ELECTRON TUBE: pentode; glass RMA envelope T-5-1/2; 7 pin type terminations located on bottom; beam power amplifier; spec. no. JAN-1A; JAN type no. 6AS6.	1st IF amplr
Z201		TRANSFORMER, INTERMEDIATE FREQUENCY: 15.3 mc peak frequency; input type; shielded; 1.27 in. lg by 1.25 in. w by approx 2-1/16 in. h; phenolic coil forms; brass rod cores; double tuned; capacitor tuning; mounted by centered no. 6-32 hole and non-turn post 0.120 in. dia spaced 0.310 in. c to c; 4 solder post type terminals; incl 2 ea fixed capacitors across primary and secondary windings, marked w/ Bendix part number, incl wire lead 1.12 in. lg extending from side of case; Bendix Radio part/dwg no. N203798-9.	IF input
Z202		TRANSFORMER, INTERMEDIATE FREQUENCY: 15.325 mc peak frequency; interstage type; shielded; 1.25 in. lg by 1.25 in. wide by 2.06 in. high; phenolic coil form powdered iron core; tuned primary only, variable capacitor tuning; one no. 6-32 thd mtg insert located in center of bottom of can; 4 solder post type terminals; marked w/ Bendix part no. Bendix Radio part/dwg no. N207922-1.	IF output
Z203		Not used.	
Z204		SUPPRESSOR, ELECTRICAL NOISE: capacitor and coil type; 125 v ac at 3 amp power rating; 1.125 in. lg by 1.00 in. wide by 0.688 in. thick; inclosed in rectangular shape, metal, corrosion resistant plated case; two 0.140 in. dia mounting holes spaced 1.44 in. c to c on mounting feet; 2 solder lug type terminals located one on each end; Tobe Deutschman Corp. part no. 1561-A; Bendix Radio part/dwg no. C220305-1.	for B201
Z205		Same as Z204.	for B201
TB201	2	TERMINAL BOARD: natural plastic per spec MIL-P-997, type GSG; incl 23 solder post type terminals; 4.90 in. lg by 3.12 in. w by approx 1/8 in. thk; eight 0.154 in. dia mtg holes irregularly spaced; marked w/ symbol designations; Bendix Radio part/dwg no. N280321-1.	component mtg
TB202	2	TERMINAL BOARD: natural plastic per spec MIL-P-997, type GSG; incl 8 solder post type terminals; 1.89 in. lg by 0.97 in. w by approx 3/32 in. thk; two 0.136 in. dia mtg holes spaced 1.62 in. c to c; terminals identified 1 through 8; Bendix Radio part/dwg no. C280260-1.	RF drive connections
TB203	2	TERMINAL BOARD: natural plastic incl 9 solder post type terminals; 2.65 in. lg by 0.70 in. w by approx 1/8 in. thk; two 0.128 in. dia mtg holes spaced 2.360 in. c to c; terminals identified 1 through 9; Bendix Radio part/dwg no. C280088-1.	component mtg
TB204	2	TERMINAL BOARD: natural plastic per spec no. MIL-P-997, type GSG; incl 6 solder post type terminals; 2.32 in. lg by 2.12 in. w by approx 1/16 in. thk; three 0.161 in. dia mtg holes irregularly spaced; marked w/ symbol designations; Bendix Radio part/dwg no. L280138-1.	component mtg
XV201		SOCKET, ELECTRON TUBE: 7 beryllium copper silver-plated contacts; miniature; incl shield base and center shield; 1.125 in. max lg by 0.800 in. w by 0.84 in. high; teflon body; one-piece saddle mtg; 5/8 in. dia chassis hole required; two 0.125 in. dia mtg holes spaced 0.875 in. c to c; Hugh H. Eby, Inc. part no. 9715-15; Bendix Radio part/dwg no. C287104-1.	for V201

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
XV202		SOCKET, ELECTRON TUBE: 9 copper-base non-magnetic alloy, silver-plated contacts; noval; oval shape; 1-3/8 in. lg by 1.035 in. wide by 25/32 in. high; ceramic body; one-piece saddle, top mounting; 3/4 in. dia chassis hole required; two 0.125 in. dia mtg holes spaced 1.125 in. c to c; spec. no. JAN-S-28A; JAN type no. TS103C01.	for V202
XV203		Same as XV201.	for V203
XV204		Same as XV201.	for V204
XV205		Same as XV201.	for V205
XV206		SOCKET, ELECTRON TUBE: 7 beryllium copper silver-plated contacts; contact missing between no. 5 and 6 contact; acorn tube type; round; 1.40 in. dia max by 0.53 in. high; brown plastic body; two 0.140 in. dia mounting holes spaced 1.062 in. c to c; Bendix Radio part/dwg no. L202514-2.	for V206
XV207		SOCKET, ELECTRON TUBE: 7 beryllium copper silver-plated contacts; contact missing between no. 1 and no. 2 contact; acorn tube type; round; 1.40 in. dia max by 0.53 in. high; brown plastic body; two 0.140 in. dia mounting holes spaced 1.062 in. c to c; Bendix Radio part/dwg no. L202514-1.	for V207
XV208		Same as XV207	for V208
XV209		SOCKET, ELECTRON TUBE: 7 copper contacts; silver-plated; miniature; round; 1-1/8 in. lg by 0.900 in. wide by 25/32 in. high; ceramic body; one-piece saddle mounting; 5/8 in. chassis hole required; 1/8 in. dia mtg holes spaced 7/8 in. c to c; spec. no. JAN-S-28A; JAN type no. TS102C01.	for V209
C301		p/o Z301. Not replaceable.	
C302		p/o Z301. Not replaceable.	
C303		p/o Z301. Not replaceable.	
C304		CAPACITOR, FIXED, MICA DIELECTRIC: 56 uuf, ±10%; 500 v dc working; -20 to +100 parts per million per deg C temp coef; molded low-loss bakelite case; case dim; 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E560K; Bendix Radio part/dwg no. OC220133-57.	gr byp V301
C305		CAPACITOR, FIXED, MICA DIELECTRIC: 150 uuf, ±10%; 500 v dc working; -20 to +100 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E151K; Bendix Radio part/dwg no. OC220133-67.	gr byp V302
C306		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; case style no. 22, MBCA ref dwg group 1; 10,000 mmf ±20%; 120 v dc working; black plastic case; case dim; 51/64 in. lg by 15/32 in. wide by 7/32 in. high; 2 wire-lead type terminals, located axially; impregnated per spec JAN-C-91; no internal ground connection; terminal-mounted; spec. no. JAN-C-91, type no. CN20H103M.	test point byp
C307		CAPACITOR, FIXED, MICA DIELECTRIC: 18 uuf, ±5%; 500 v dc working; -200to + 200 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C180J; Bendix Radio part/dwg no. C220132-45.	pl byp V301
C308		CAPACITOR, FIXED, MICA DIELECTRIC: 10 uuf, ±5%; 500 v dc working; -200 to +200 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C100J; Bendix Radio part/dwg no. OC220132-42.	sup gr coup V302

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C309 A, B, C,D		CAPACITOR, FIXED, PAPER DIELECTRIC: 4 sections; 25,000 uuf per section; −5%, +60%; 400 v dc working; hermetically sealed metal case; case dim, 1.218 in. max w by 0.375 in. max deep by 2.50 in. max high; 4 solder lug type terminals; 0.312 in. max high, located on bottom; ceramic or glass insulation; mineral oil impregnated; all sections internally grounded; 2 mtg holes, 0.156 in. dia; spaced 1-7/16 in. c to c; Cornell Dubilier Electric Corp. part no. MC9A63; Bendix Radio part/dwg no. L220087-1.	A. pl byp V301 B. scr byp V302 C. B+ byp D. scr supply byp
C310		p/o Z302. Not replaceable.	
C311		p/o Z302. Not replaceable.	
C312		p/o Z302. Not replaceable.	
C313		p/o Z302. Not replaceable.	
C314		p/o Z302. Not replaceable.	
C315		p/o Z302. Not replaceable.	
C316 A, B, C, D		Same as C309.	A. AGC byp B. cath byp V303 C. htr byp V303 D. sup byp V303
C317		p/o Z303. Not replaceable.	
C318		p/o Z303. Not replaceable.	
C319		p/o Z303. Not replaceable.	
C320		p/o Z303. Not replaceable.	
C321		p/o Z303. Not replaceable.	
C322		p/o Z303. Not replaceable.	
C323 A, B, C, D		Same as C309.	A. AGC byp B. cath byp V304 C. scr byp V304 D. htr byp V304
C324		p/o Z304. Not replaceable.	
C325		p/o Z304. Not replaceable.	
C326		p/o Z304. Not replaceable.	
C327		p/o Z304. Not replaceable.	
C328		p/o Z304. Not replaceable.	
C329		p/o Z304. Not replaceable.	
C330 A, B, C, D		Same as C309.	A. B. gr byp V305 C. cath byp V305 D. htr byp V305
C331		p/o Z305. Not replaceable.	
C332		p/o Z305. Not replaceable.	
C333		p/o Z305. Not replaceable.	
C334		p/o Z305. Not replaceable.	
C335		p/o Z305. Not replaceable.	
C336		p/o Z305. Not replaceable.	
C337		p/o Z305. Not replaceable.	
C338		CAPACITOR, FIXED, MICA DIELECTRIC: 47 uuf, ±10%; 500 v dc working; −20 to +100 parts per million per deg C temp coef; molded low-loss bakelite case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E470K; Bendix Radio part/dwg no. OC220133-55.	load filter
C339		Same as C338.	pl filter V306
C340 A and B		CAPACITOR, FIXED, PAPER DIELECTRIC: 2 sections; both sections identical and rated 600 VDCW, 500,000 mmf, ±20% tolerance, 400,000 mmf to 600,000 mmf capacity range; impregnated per spec MIL-C-25A, filled per spec MIL-C-25A; metal case, uninsulated; hermetically sealed, 1.75 in. w by 2.75 in. approx h by 0.64 in. dia; 3 terminals, terminal lug type, has two 0.156 in. wd mtg slots spaced 2-1/8 in. c to c; spec no. MIL-C-25A, type no. CP69B4EF504M.	A. cath byp V306 B. pl filter V308

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C341 A, B, C, D		Same as C309.	A. cath byp V307 B. htr byp V307 C. scr byp V307 D. load byp V308
C342		Not used.	
C343		p/o Z306. Not replaceable.	
C344		p/o Z306. Not replaceable.	
C345		Not used.	
C346 A, B, C, D		Same as C309.	A. AGC filter V302 B. AGC filter V308 C. AGC filter V307 D. htr byp V301
C347		CAPACITOR, FIXED, MICA DIELECTRIC: 470 uuf, ±20%; 300 v dc working; −500 to +500 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w, 11/64 in. deep, 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. VCM15B471M 300 WV; Bendix Radio part/dwg no. OC220125-39.	RF gain control byp
C348		Same as C347.	load filter B308
C349		CAPACITOR, FIXED, MICA DIELECTRIC: 220 uuf, ±10%; 500 v dc working; −20 to +100 parts per million per deg C temp coef; molded low-loss bakelite case; case dim; 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E221K; Bendix Radio part/dwg no. OC220133-71.	pl coup V308
C350		Same as C349.	cath byp V308
C351		Same as C349.	cath byp V308
C352		Same as C338.	input filter V310A
C353		Same as C338.	input filter V310A
C354		Same as C338.	pl coup V310A
C355		CAPACITOR, FIXED, MICA DIELECTRIC: 4700 uuf ±20%; 500 v dc working; molded low-loss plastic case; case dim, 51/64 in. nom w by 5/16 in. nom deep by 51/64 in. nom high; 2 wire-lead type terminals, located axially; terminal-mounted; spec. no. MIL-C-5; JAN type no. CM35B472M.	noise filter gr V313
C356 A, B, C		CAPACITOR, FIXED, PAPER DIELECTRIC: 3 sections; 2 uf, 1 uf, 1 uf, ±20 −10% ea section; 200 v dc working one 1 uf section, 400 v dc other sections; hermetically sealed metal case; case dim, 1-13/16 in. w by 1-1/16 in. deep by 3-1/4 in. high; 3 solder lug type terminals, 7/16 in. high, located on bottom, spaced 31/64 in. c to c; castor oil impregnated; castor oil filled; all sections internally grounded; mounts by bracket not incl; incl tinned copper braid 1 in. lg soldered to case; Sprague Electric Co. part no. P17036; Bendix Radio part/dwg no. C220101-1.	A. pl supply filter B. cath byp B309A C. cath byp V312
C357		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 30,000 vvf ±20%; 400 v dc working; designed for rf application, rated 0.80 amp at 1 to 10 mc at 40°C ambient temp; molded case per spec. no. JAN-P-14; case dim, 1-15/32 in. w by 11/32 in. deep by 49/64 in. high; 2 wire-lead type terminals, located axially; impregnated per spec. no. JAN-C-91; no internal ground connections; terminal-mounted; spec. JAN-C-91; JAN type no. CN42E303M.	pl coup V309A
C358		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 2,200 mmf ±20%; 500 v dc working; molded case per spec JAN-C-5; case dim, 53/64 in. lg by 53/64 in. wide by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal mounted; spec. no. JAN-C-5; JAN type no. CM30B222M.	gr coup V309A
C359		Same as C347.	gr byp V309A
C360 A, B, C, D		Same as C309.	A. htr ckt byp V310 B. pl filter V310B C. pl byp V311 D. gr byp V311

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C361		CAPACITOR, FIXED, MICA DIELECTRIC: 8,200 uuf ±10%; 300 v dc working; characteristic "B"; molded low-loss material case; case dim, 53/64 in. lg by 11/32 in. deep by 53/64 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; spec. JAN-C-5; JAN type no. CM35B822K.	pl coup V311
C362		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; case style no. 22, MBCA ref dwg group 1; 6000 mmf ±20%; 200 v dc working; designed for radio frequency application, 0.20 rms amp at 1 to 10 mc, rated at 40°C ambient temp; black plastic case; case dim, 51/64 in. lg by 15/32 in. wide by 7/32 in. high; 2 terminals, wire lead type, located axially; impregnated per spec. JAN-C-91; no internal ground connection; terminal-mounted; spec. no. JAN-C-91; JAN type no. CN20A602M.	AGC filter
C363		Same as C362.	squelch filter
C364		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 2,000 uuf ±20%; 400 v dc working; molded phenolic case; case dim, 45/64 in. w by 15/64 in. deep by 29/64 in. high; 2 wire-lead type terminals, located axially; oil impregnated; no internal ground connections; terminal-mounted; Tobe Deutschmann Corp. part no. AP-002-M-400; Bendix Radio part/dwg no. OC220028-31.	B+ filter
C365		Same as C362.	audio filter
C366		Same as C362.	audio filter
C367		Same as C362.	RF filter
C368		Same as C364.	B– filter
C369		Same as C362.	AGC filter
C370		Same as C362.	19 v AC filter
C371		Same as C362	6.3 v AC filter
C372		Same as C362.	video output filter
C373		Same as C362.	video output filter
C374		Same as C306.	cath byp V302
C375		Same as C276.	AGC byp
C376		Same as C276.	AGC byp
C377		Same as C276.	gr coup V305
C378		CAPACITOR, FIXED, MICA DIELECTRIC: 100 uuf ±10%; 500 v dc working; –20 to +100 parts per million per deg C temp coef; molded low-loss bakelite case; case dim; 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals; located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E101K; Bendix Radio part/dwg no. OC220133-63.	gr coup V313
C379		Same as C347.	cath byp V306
E301		CLIP, CRYSTAL HOLDER: steel spring wire, cadmium-plated finish; over-all dim, 21/32 in. lg by 5/8 in. w by 3/64 in. high; over-all dimensional data of retained item-0.750 in. lg by 0.343 in. w by 1.003 in. h; mounts by 2 springs, not furnished; Bendix Radio part/dwg no. C233301.	for Y301
E302	5	SHIELD, ELECTRON TUBE: construction data-accommodates RMA tube envelope style T-6-1/2; straight, cylinder shape w/ flared end, open type, 1 opening provided specificially for electrode leads, copper or brass; over-all dim, 1-1/2 in. lg, 0.950 in. ID, 1.065 in. w inside mtg bosses; mounts on shock shield base; parts c/o 1 body, 1 nonmagnetic spring; spec. no. JAN-S-28A; JAN type no. TS103U01.	for V309
E303		Same as E302.	for V310
E304		Same as E302.	for V311
E305		Same as E302.	for V313
E306	5	SHIELD, ELECTRON TUBE: construction data-accomodates RMA tube envelope style T-6-1/2; straight cylinder shape w/ flared end, open top; copper or brass; over-all dim, 1-15/16 in. lg, 0.950 in. ID, 1.065 in. w inside mtg bosses; mounts on shock shield base; parts c/o 1 body, 1 nonmagnetic spring; spec. no. JAN-S-28A; JAN type no. TS103U02.	for V312

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E307		SHIELD, ELECTRON TUBE: construction data-accommodates RMA tube envelope style T-5-1/2; straight cylinder shape w/ flared end, open top, 1 opening provided specifically for electrode leads; copper or brass; over-all dim, 1-3/8 in. lg, 0.810 in. ID, 0.930 in. w inside mtg bosses; mounts on shock shield base; parts c/o 1 body, 1 nonmagnetic spring; spec no. JAN-S-28-A; JAN type no. TS102U01.	for V301
E308		Same as E307.	for V302
E309		Same as E307.	for V303
E310		Same as E307.	for V304
E311		Same as E307.	for V305
E312		Same as E307.	for V307
E313		Same as E307.	for V306
E314		Same as E307.	for V308
E315 (qty 2)		INSULATOR, BUSHING: laminated plastic per spec no. MIL-P-15047, type NPG, natural color; no voltage rating; shoulder shape, ref dwg group 9; item code no. 90, ref dwg group 9; dim., ref dwg group 9; D-0.44 in., E-0.109, F-0.281 in., H-0.156 in., L-0.17 in; mounts by 0.156 in. bore; Bendix Radio part/dwg no. C293172-4.	for R341
E316		TERMINAL STUD: style no. 58, ref dwg group 21; 12,000 v ac breakdown; solder connection; brass terminal, melamine insulation, spec. no. MIL-P-14A, type MME; terminal hot tin dipped; over-all dim; 0.1938 in. lg, 0.250 in. w across hex flats; mounts by no. 4-40 insert 0.187 in. deep; Elcon Mfg Co. part no. TT-19; Bendix Radio part/dwg no. C243900-4.	tie points (qty of 10 req)
E317	5	INSULATOR STANDOFF: material data-molded mica filled phenolic body, brass insert, grade and color per spec. MIL-P-14A type MFE; cadmium-plated inserts; 12,000 v breakdown voltage; cylindrical pillar shape, MBCA ref dwg group 9; item code no. 207, ref dwg group 9; dimensions-D-0.234 in., L-0.643 in., S-0.187 in., R-0.187 in.; one -4-40 thread tapped mounting hole centered on bottom; hex., 0.250 in. across flats on one end; Elcon Mfg Co. type no. PT-19-E; Bendix Radio part/dwg no. C243901-2.	tie points (qty 8 req)
E318	6	RECEIVER SUBASSEMBLY: principal parts c/o 1 shelf, 1 cover, 14 tube sockets, 1 crystal socket, 8 transformers; over-all dim.-9.12 in. lg by 5.68 in. w by 6.71 in. h; 4 captive mtg screws no. 10-24 on 4.98 in. by 4.38 in. mtg centers; tubes, tube shields and crystal not incl; intermediate frequency section of receiver, incl automatic gain control, noise limiter and squelch circuits; Bendix Radio part/dwg no. OR281841-2.	IF subsection
H301		Not used.	
H302	2	PLATE, MOUNTING, CAPACITOR: steel, cadmium-plate; holds capacitor by means of "J" shaped top, single mounting stud no. 6-32 NC-2 by 5/8 min. lg; 2.92 in. lg excluding stud, 3.61 in. lg including 6.32 NC-2 thread stud; for mtg capacitor; marked "BENDIX C205703"; Bendix Radio part/dwg no. C205703-1.	for C356 (qty 2 req)
H303	2	SCREW, EXTERNALLY RELIEVED BODY: stainless steel, AISI type no. 303, black oxide finish; head data-hex., slot drive, 0.18 in. h by 0.375 in. w across flats; body dim.-0.163 in. first dia from head, 3.34 in. from bearing surface to end of undercut, 3.78 in. lg; thread data-0.190 (no. 10) in. OD, 24 threads per in., NC, class 2 fit, 0.44 in. lg; Bendix Radio part/dwg no. L241957-3.	mounts unit to receiver frame
H304		Same as H303.	mounts unit to receiver frame
H305		Same as H303.	mounts unit to receiver frame
H306		Same as H303.	mounts unit to receiver frame

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
J301		CONNECTOR, RECEPTACLE: 1 rd female contact; straight type; over-all dim.-0.849 in. lg, excluding protruding terminal, by 11/16 in. wide by 11/16 in. high; contact not rated; radio frequency connector, 50 ohms nominal impedance rating, constant frequency impedance characteristics; cylindrical shape, brass, silver-plated, locking type body; insert per MIL-C-3608; four 0.099 in. dia mounting holes, tapped with no. 3-56 by 0.090 in. deep thread, spaced on 1/2 in. mounting centers; weatherproof; MIL spec. no. MIL-C-3608; MIL type no. UG-290/U.	IF input
J302		SOCKET, ELECTRON TUBE: 11 contacts-phosphor bronze, silver-plated finish; octal; over-all dim., excluding terminals-1-7/8 in. lg, 1-9/32 in. w, 31/64 in. deep; mica filled bakelite body; mtg data-one-piece saddle mtg, 1-1/8 in. dia chassis hole required, 2 mtg holes-5/32 in. dia spaced 1-1/2 in. c to c; American Phenolic Corp. part no. 77-MIP-11TM; Bendix Radio part/dwg no. OA113017-8.	test socket
L301		p/o Z301. Not replaceable.	
L302		p/o Z301. Not replaceable.	
L303		p/o Z302. Not replaceable.	
L304		p/o Z302. Not replaceable.	
L305		p/o Z303. Not replaceable.	
L306		p/o Z303. Not replaceable.	
L307		p/o Z304. Not replaceable.	
L308		p/o Z304. Not replaceable.	
L309		p/o Z305. Not replaceable.	
L310		p/o Z305. Not replaceable.	
L311		p/o Z306. Not replaceable.	
L312		p/o Z306. Not replaceable.	
L313		p/o Z307. Not replaceable.	
L314		p/o Z307. Not replaceable.	
L315		p/o Z307. Not replaceable.	
L316		p/o T301. Not replaceable.	
L317		p/o T301. Not replaceable.	
L318	2	COIL, RADIO FREQUENCY: individual winding data-1 winding, single layer wound, 28 turns, no. 26 AWG, formvar insulation; 13 uh at 2.5 mc, 0.1 ohm dc resistance; ceremag no. 2 coil form; over-all dim. excluding terminals-15/64 in. dia, 0.625 in. lg; 2 wire-lead type terminals; terminal-mounted; Jeffers Electronics Corp. part no. 10600-1; Bendix Radio part/dwg no. OC215350-23.	B+ supply filter
O301	2	SPRING, HELICAL EXTENSION: cylindrical shape, ref dwg group 66; load at extended lg not specified; spring rate per in. not specified; no initial tension; 15 total number of coils; 1h helix, ref dwg group 66; both ends special 1-1/2 turn-loops; lg from coil to inside of loops not specified; 0.08 in. radius of loop, loops centered; spring steel per spec AN-W-17; rd 0.018 in. dia material, cadmium plated finish; coil dim. data-free over-all lg of coils not specified; free lg inside loops not specified; OD of spring not specified; 0.16 in. ID of spring; free over-all lg of spring not specified; 0.12 in. lg from coil to center line of loops, located 0.53 in. max c to c; Bendix Radio part/dwg no. A239815.	for Y301
O302		RING, RETAINER: for captive screws; aluminum alloy, etch finish; cone-shaped; 0.195 in. ID, 0.280 in. OD, 0.085 in. lg; Bendix Radio part/dwg no. A288839.	for captive screws (qty 4 req)
P301		CONNECTOR, PLUG: 1 rd male contact; straight type; over-all dim.-1-1/64 in. lg by 9/16 in. dia; contacts electrically rated at 500 v peak; rf connector; 50 ohms nom impedance, non-constant frequency impedance characteristic; cylindrical shape, brass, silver-plated finish, locking type body; teflon insert; 0.217 in. dia max cable opening; approx 9/16 in. OD female bayonet coupling sleeve; weatherproof; MIL spec. no. MIL-C-3608; MIL type no. UG-88/U.	IF input

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
P604		CONNECTOR, PLUG: 20 flat male contacts; polarized; straight type; over-all dim.-excluding protruding terminals-3.344 in. lg by 0.625 in. w, by 1.067 in. high; contacts electrically rated 5 amp; rectangular shape body, molded black plastic, spec. no. JAN-P-14 type no. MTS-E-1; 2 holes for mtg. 0.136 in. dia. 0.380 in. lg, spaced 2.644 in. c to c; Cannon Electric Development Co. part no. 17968-19; Bendix Radio part/dwg no. L223227.	chassis input connector
R301		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 47,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF473K.	gr leak V301
R302		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF102K.	meter shunt test socket J302
R303		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 33,000 ohms ±10%; 1 w rated at 70°C ambient temp; characteristic "F"; body dim, 0.750 in. lg by 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF333K.	pl drop V301
R304		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 220,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF224K.	supp gr lead V302
R305		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1200 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF122K.	cath bias V302
R306		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3900 ohms ±10%; 1 w rated at 70°C ambient temp; characteristic "F"; body dim, 0.750 in. lg by 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC30GF392K.	scr drop V302
E307		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1 meg ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF105K.	gr filter V303
R308		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 220 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF221K.	cath bias V303
R309		Same as R306.	scr drop V303
R310		Same as R307.	gr filter V304
R311		Same as R308.	cath bias V304
R312		Same as R306.	scr drop V304
R313		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 470,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF474K.	AGC v divider gr V305
R314		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 470 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type RC20BF471K.	cath bias V305
R315		Same as R306.	scr drop V305
R316		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 18,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF183K.	load filter pl V306
R317		Same as R313	filter gr V313

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R359		RESISTOR, FIXED, FILM: similar to body style no. 110, ref dwg group 2; 12,000 ohms ±10%; 1/2 w; carbon film; temp coef data, approx. 0.033% of total resistance per °C, from 0°C to +100°C range; body dim, 9/16 in. lg by 0.135 in. dia by 5/32 in. dia over-all; lacquer coating; resistant to humidity; 2 axial wire-lead type terminals; International Resistance Co. type DCC; Bendix Radio part/dwg no. BRN10AB1202F.	cath bias V311
R360		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 2,200 ohms ±10%; 1/2 w power dissipation; resistance temp characteristic F; body dim, excluding terminals, 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF222K.	cath bias V311
R361		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 180,000 ohms ±10%; 1/2 w rated at 70°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF184K.	pl load V311
R362		Same as R313.	gr leak V311
R363		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 470 ohms ±10%; 1/2 w rated at 70°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20GF471K.	cath bias V312
R364		Same as R304.	
R365		Same as R304.	AGC filter V302
R366		Same as R307.	AGC filter V302
R367		Same as R304.	gr coup V303
R368		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 100 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF101K.	parasitic suppressor V303
R369		Same as R304.	coup V304
R370		Same as R368.	parasitic suppressor V304
R371		Same as R304.	coup gr V305
R372		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 56,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic "F"; body dim, 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec. no. JAN-R-11; JAN type no. RC20BF563K.	compensator Z307
R373		Same as R368.	gr coup V307
R374		RESISTOR, FIXED, FILM: similar to body style no. 110, ref dwg group 2; 150,000 ohms ±1%; 1/2 w, derated to zero power 120°C; carbon film; temp coef data, approx. 0.036% of total resistance per °C, from 0°C to +100°C range; body dim, 9/16 in. lg by 0.135 in. dia by 5/32 in. dia over-all; lacquer coating, resistant to humidity; 2 axial wire-lead type terminals; International Resistance Co. type no. DCC; Bendix Radio part/dwg no. BRN10AB1503F.	B and div
T301		TRANSFORMER, AUDIO FREQUENCY: plate coupling type; primary winding impedance-7500 ohms over-all; secondary winding impedance-200 ohms over-all; 0.022 amp primary dc rating; 1500 v test voltage; fully inclosed copper case; over-all dim, 1.28 in. lg by 1.28 in. w by 1.80 in. high; 1 w max audio operating level; 5.75 to 1 primary to secondary ratio of turns; 300 to 4000 cycle frequency range; ±3 db over frequency range; not tuned; 4 solder lug type terminals located on mtg end; 2 mtg studs no. 6-32 spaced 0.750 in. c to c; hermetically sealed, varnish impregnated and asphalt potted, marked w/Bendix Radio part no.; Bendix Radio part/dwg L284339-1.	Audio output
TB301	2	TERMINAL BOARD: natural plastic; incl 8 solder post type terminals; over-all dim. excluding terminals; 3.96 in. lg by 1.40 in. w by approx 1/8 in. thk; 2 mtg slots 0.215 in. lg by 0.130 in. w spaced 3.64 in. c to c; marked w/symbol designations; Bendix Radio part/dwg no. C281582-1.	component mounting
TB302	2	TERMINAL BOARD: natural plastic; incl 33 solder post type terminals; over-all dim. excluding terminals; 5.14 in. lg by 1.64 in. w by 1/8 in. thk; 2 mtg holes 0.136 in. dia spaced 4.120 in. c to c; marked w/symbol designations; Bendix Radio part/dwg no. L281583-1.	component mounting

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
V301		ELECTRON TUBE: glass envelope; dual control rf pentode, sharp cut-off, receiving; spec. no. MIL-E-1B; JAN type no. 6AS6.	crystal asc
V302		Same as V301.	2nd mixer
V303		Same as V301.	1st IF amplr
V304		Same as V301.	2nd IF amplr
V305		Same as V301.	3rd IF amplr
V306		ELECTRON TUBE: glass envelope; reliable miniature twin diode, receiving; spec. no. MIL-E-1B; JAN type no. 5726/6AL5W.	seg rect and noise rect
V307		Same as V301.	AGC IF amplr
V308		Same as V306.	IF AGC rect and RF AGC rect
V309		ELECTRON TUBE: glass envelope; reliable miniature twin triode, receiving; spec. no. MIL-E-1B; JAN type no. 5670.	1st audio amplr RF gain follower
V310		Same as V309.	noise amplr and RF AGC clamp
V311		Same as V309.	2nd audio and squelch
V312		ELECTRON TUBE: glass envelope; rf beam power pentode (reliable), receiving; spec. no. MIL-E-1B; JAN type no. 5686.	audio output
V313		Same as V309.	video cath follower and noise cath follower
Y301		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 12517.80 kc nom frequency of plate, ±0.005% tolerance from −55°C to +90°C; Army-Navy Crystal Holder HC-6/U, marked w/ nom frequency in kc and w/ type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec. no. MIL-C-3098A; type no. CR-18/U; Bendix Radio part/dwg no. L221909-18.	2nd oscillator
Z301		TRANSFORMER, INTERMEDIATE FREQUENCY: 15.325 mc peak frequency; interstage; shielded; over-all dim., excluding terminals, 1.25 in. lg by 1.25 in. w by 2.06 in. high; phenolic coil form, powdered iron core; tuned primary only, capacitor tuning; mounts by no. 6-32 hole centered in bottom of can; 4 solder post type terminals; incl 2 fixed capacitors across primary winding; marked w/Bendix part number; Bendix Radio part/dwg no. N207922-1.	2nd mixer input
Z302		TRANSFORMER, INTERMEDIATE FREQUENCY: 2.8 mc peak frequency; input; shielded; over-all dim., excluding terminals and mtg studs, 1.25 in. lg by 1.25 in. w by 2.040 in. high; natural plastic coil form; double tuned; capacitor tuning; mounts by no. 6-32 hole centered in bottom of can; 4 solder post type terminals; fungus proof; marked w/ Bendix part number; incl 2 ea fixed capacitors across ea winding; Bendix Radio part/dwg no. N204300-4.	1st IF input
Z303		Same as Z302.	2nd IF input
Z304		TRANSFORMER, INTERMEDIATE FREQUENCY: 2.8072 mc peak frequency; interstage; shielded; over-all dim., excluding terminals, 1.25 in. by 1.25 in. w by 2.05 in. high; natural plastic coil form, air core; double tuned; capacitor tuning; mounts by no. 6-32 hole centered in bottom of case; 4 solder post type terminals; incl 2 fixed capacitors ea across primary and secondary winding; Bendix Radio part/dwg no. N204300-5.	3rd IF input
Z305		TRANSFORMER, INTERMEDIATE FREQUENCY: 2.8072 mc peak frequency; output; shielded; over-all dim., excluding terminals, 1.25 in. lg by 1.25 in. w by 2.06 in. high; powdered iron core; double tuned; capacitor tuning; mounts by no. 6-32 hole centered in bottom of case; 4 solder lug type terminals; incl 2 fixed capacitors ea across, and 1 fixed capacitor between primary and secondary windings; marked w/ Bendix part number; Bendix Radio part/dwg no. N204290-3.	seg rect input
Z306		TRANSFORMER, INTERMEDIATE FREQUENCY: 2.8072 mc peak frequency; interstage; shielded; over-all dim., excluding terminals, 1.25 in. lg by 1.25 in. w by 2.05 in. high; iron slug core; tuned secondary only; capacitor tuning; mounts by no. 6-32 hole centered in bottom of case; 4 solder post type terminals; incl fixed coupling capacitor between primary and secondary windings; marked w/ Bendix part number; Bendix Radio part/dwg no. N204321-2.	AGC rect input

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
Z307		TRANSFORMER, AUDIO FREQUENCY: plate coupling type; primary winding impedance, 10,000 ohms over-all; secondary winding impedance, 60,000 ohms over-all; 1000 v test voltage; fully inclosed copper case; over-all dim, 0.98 in. lg by 0.98 in. w by 2.56 in. high; 0.5 w max audio operating level; 1 to 1 primary to secondary ratio of turns; 150 to 4500 cycle frequency range; ±3 db over frequency range; not tuned; 4 solder lug type terminals located on mtg end; 2 mtg holes no. 6-32 spaced 0.562 in. c to c; hermetically sealed; marked w/ Bendix part number; Bendix Radio part/dwg no. L284341-1.	audio interstage
XV301		SOCKET, ELECTRON TUBE: 7 contacts upper base alloy; silver plated; miniature; end center shield; over-all dim., excluding terminals; 1-1/8 in. lg by 0.800 in. w by 25/32 in. high; ceramic body; mtg data; one piece saddle mtg; 5/8 in. dia chassis hole required; 2 mtg holes, 1/8 in. dia; spaced 7/8 in. c to c; spec. no. JAN-S-28A. JAN type TS102C01.	for V301
XV302		Same as XV301.	for V302
XV303		Same as XV301.	for V303
XV304		Same as XV301.	for V304
XV305		Same as XV301.	for V305
XV306		Same as XV301.	for V306
XV307		Same as XV301.	for V307
XV308		Same as XV301.	for V308
XV309		SOCKET, ELECTRON TUBE: 9 contacts, copper base alloy, silver-plated; noval; incl center shield; over-all dim., excluding terminals, 1-3/8 in. lg by 0.940 in. w by 25/32 in. high; ceramic body; one-piece saddle mtg; 3/4 in. dia chassis hole required; 2 mtg holes, 1/8 in. dia, spaced 1-1/8 in. c to c; spec. no. JAN-S-28A; JAN type no. TS103C01.	for V309
XV310		Same as XV309.	for V310
XV311		Same as XV309.	for V311
XV312		Same as XV309.	for V312
XV313		Same as XV309.	for V313
XY301		SOCKET, CRYSTAL: 2 contacts, beryllium copper, silver-plated finish; over-all dim, 55/64 in. lg by 3/8 in. w by 3/8 in. high; steatite body; above chassis base mtg; 3 chassis holes required, ctr hole 0.136 in. dia, 2 flatted holes 0.281 in. dia; 1 mtg hole, 0.125 in. dia. centered in base; Eby, Hugh H., Inc., part no. 9006; Bendix Radio part/dwg no. C221905-1.	for Y301
B401		MOTOR, DIRECT CURRENT: permanent magnet type; operating power requirements, 27.5 v dc, 0.65 amp max; 1/100 hp nominal rating, 1.5 in. oz torque min; shaft data, single take-off, speed 20,000 rmp p/m 15%, ccw rotation; closed frame; 25°C ambient at sea level; intermittent operation; on 6 sec, 3 sec one direction; 3 sec opposite direction; off 54 sec; designed for operation up to 50,000 ft; plain shaft; 1-53/64 in. lg by 1-17/64 in. dia; 1/8 in. dia shaft extending 1/2 in. from frame, center of shaft is 5/8 in. from mounting surface; 2 solder lug type terminals; fixed mounting base; two no. 4-40 tapped mounting holes spaced 180° apart on 0.676 in. dia circle; center of shaft is same as center of mounting circle; Globe Industries, type no. A-9-A-608-1; Bendix Radio part/dwg no. L221060-1.	channel selector drive motor
C401		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 470 mmf ±20%; 300 v dc working; temperature coefficient not specified; molded low-loss bakelite case; dim. of case, 0.52 in. lg by 0.30 in. wide by 0.22 in. thick; 2 wire-lead type terminals located axially; terminal-mounted; Electro Motive Mfg Co., Inc. part no. VCM15B471M 300 WV; Bendix Radio part/dwg no. OC220125-39.	gr coup V402B
C402		CAPACITOR, FIXED, MICA DIELECTRIC: 100 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals; located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E101G; Bendix Radio part/dwg no. OC220129-63.	tuning L401

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C403 A, B, C, D		CAPACITOR, FIXED, PAPER DIELECTRIC: 4 sections; case style no. 41, MBCA ref dwg group 1; 25,000 mmf −5% +60% per section; 400 v dc working; hermetically sealed metal case; case dim, 1.78 in. lg by 0.375 in. wide by 2.50 in. high; 4 terminals, solder lug type, 0.312 in. lg, located on bottom, ceramic or glass insulation; mineral oil impregnated; internally grounded; two 0.156 in. dia mounting holes spaced 1.437 in. c to c; Cornell-Dubilier Corp. part no. MC9A63; Bendix Radio part/dwg no. L220087-1.	A. pl byp V401 B. crystal heater byp C. htr ckt byp D. 1st osc meter byp
C404		Same as C401.	pl coup V401
C405		CAPACITOR, FIXED, MICA DIELECTRIC: 82 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E820G; Bendix Radio part/dwg no. OC220129-61.	pl tuning V401
C406		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 22 uuf +5%; 500 v dc working; 750 uuf per uf per deg C neg; +120 −350 uuf per uf per deg C tolerance; uninsulated; case dim, 0.200 in. dia by 0.400 in. lg; 2 wire-lead type terminals; terminal-mounted; spec. no. JAN-C-20A; JAN type no. CC20UJ220J.	trimmer L402
C407		Same as C401.	gr coup V403A
C408 A, B, C, D		Same as C403.	A. cath byp V403B B. htr ckt byp C. pl byp V402B D. pl byp V402A
C409		Not used.	
C410		CAPACITOR, FIXED MICA DIELECTRIC: 15 uuf ±5%; 500 v dc working; −200 to +200 parts per million per deg C temp coef; molded low-loss bakelite case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C150J; Bendix Radio part/dwg no. OC220132-44.	pl tuning V403A
C411		CAPACITOR, FIXED, MICA DIELECTRIC: 33 uuf +2%; 500 v dc working −200 to +200 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C330G; Bendix Radio part/dwg no. OC220129-51.	pl tuning V403A
C412		CAPACITOR, FIXED, MICA DIELECTRIC: 56 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case, case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E560G; Bendix Radio part/dwg no. OC220129-57.	pl tuning V403A
C413		CAPACITOR, FIXED, MICA DIELECTRIC: 91 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially, terminal-mounted; Electro Motive Mfg Co. part no. CM15E910G; Bendix Radio part/dwg no. OC220129-62.	pl tuning V403A
C414		CAPACITOR, FIXED, MICA DIELECTRIC: 130 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E131G; Bendix Radio part/dwg no. OC220129-66.	pl tuning V403A
C415		CAPACITOR, FIXED, MICA DIELECTRIC: 200 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E201G; Bendix Radio part/dwg no. OC220129-70.	pl tuning V403A
C416		CAPACITOR, FIXED, MICA DIELECTRIC: 300 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E301G; Bendix Radio part/dwg no. OC220129-74.	pl tuning V403A

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C417		CAPACITOR, FIXED, MICA DIELECTRIC: 470 uuf ±2%; 300 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. VCM15E471G; Bendix Radio part/dwg no. OC220129-39.	pl tuning V403A
C418		CAPACITOR, FIXED, MICA DIELECTRIC: 390 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E391G; Bendix Radio part/dwg no. OC220129-77.	pl tuning V403A
C419		Same as C418.	pl tuning V403A
C420		CAPACITOR, VARIABLE, AIR DIELECTRIC: plate meshing type; 1 section; 13.13 mmf max, 2.42 mmf min; straight line capacitance tuning characteristic; 750 v ac (RMS) test voltage; over-all dim, excluding shaft and bushing, 1-3/16 in. lg approx by 5/8 in. wide by 3/4 in. high; bushing dimensions, 1/4 in. lg by 1/4 in. dia by 32 threads per in.; shaft dimensions beyond bushing, 1/4 in. lg by 3/16 in. dia; screwdriver adjustment, 360° rotation, no stops; ceramic insulated base; 2 solder lug type terminals; single hole mounted by 1/4-32 thread bushing and hex nut; supplied w/hex nut; E. F. Johnson Co. catalog no. H160-107; Bendix Radio part/dwg no. C219535-2.	pl trimmer V403B
C421		CAPACITOR, FIXED, MICA DIELECTRIC: 62 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E620G; Bendix Radio part/dwg no. OC220129-58.	pl tuning V403A
C422		Same as C402.	p/o Z402
C423		Same as C402.	p/o Z402
C424 A, B, C, D		Same as C403.	A. not used B. 200 v dc byp C. not used D. pl byp V403A
C425 A, B, C, D		Same as C403.	A. scr byp V405 B. htr ckt byp C. scr byp V404 D. pl byp V404
C426		Same as C421.	tuning Z401
C427		Same as C420.	trimmer Z401
C428		Same as C410.	gr tuning V402A
C429		Same as C411.	gr tuning V402A
C430		Same as C412.	gr tuning V402A
C431		Same as C413.	gr tuning V402A
C432		Same as C414.	gr tuning V402A
C433		Same as C415.	gr tuning V402A
C434		Same as C416.	gr tuning V402A
C435		Same as C417.	gr tuning V402A
C436		Same as C418.	gr tuning V402A
C437		Same as C418.	gr tuning V402A
C438		Same as C401.	cath coup V402A
C439		Not used.	
C440		Same as C421.	gr coup V402
C441		p/o Z403. Not replaceable.	
C442		p/o Z403. Not replaceable.	gr coup V404
C443		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 10 mmf ±1 mmf; 500 v dc working; ±200 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 0.52 in. lg by 0.30 in. wide by 0.22 in. high; 2 wire-lead type terminals, axially located; terminal-mounted; Electro Motive Mfg. Co. Inc. part no. VCM15C100J; Bendix Radio part/dwg no. C220132-42.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C444		Same as C414.	cath byp V404
C445		p/o Z404. Not replaceable.	
C446		p/o Z404. Not replaceable.	
C447		CAPACITOR, FIXED, MICA DIELECTRIC: 100 uuf ±20%; 500 v dc working; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. h; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15B101M-500 WV; Bendix Radio part/dwg no. OC220125-63.	gr coup V405
C448 A, B, C, D		Same as C403.	A. cath byp V405 B. meter byp V406 C. pl byp V406 D. meter byp V406
C449		CAPACITOR, FIXED, MICA DIELECTRIC: 30 uuf ±2%; 500 v dc working; -200 to +200 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C300G; Bendix Radio part/dwg no. OC220129-50.	cath byp V406
C450		Same as C449.	feedback gr V406
C451		Same as C401.	pl byp V406
C452 A, B, C, D		Same as C403.	A. gr byp V411 B. pl byp V405 C. scr byp V407 D. cath byp V411
C453		Same as C410.	cath byp V406
C454		Same as C410.	feedback V406
C455		p/o Z405. Not replaceable.	
C456		p/o Z405. Not replaceable.	
C457		Same as C447.	gr coup V407
C458		Same as C401.	gr bypass V408
C459 A, B, C, D		Same as C403.	A. meter byp V409 B meter byp V409 C. gr byp V411 D. cath byp V407
C460		p/o Z406. Not replaceable.	
C461		p/o Z406. Not replaceable.	
C462		Same as C401.	pl coup V408
C463 A, B, C, D		Same as C403.	A. cath byp V410 B. pl byp V410 C. meter byp V410 D. pl byp V410
C464		p/o Z407. Not replaceable.	
C465		p/o Z407. Not replaceable.	
C466		Same as C401.	RF byp cath V409
C467		Same as C401.	RF byp cath V409
C468		Same as C401.	pl byp V410
C469		CAPACITOR, FIXED, MICA DIELECTRIC: 27 uuf ±2%; 500 v dc working; -200 to +200 parts per million per deg C temp coef; molded low-loss bakelite case; case dim, 1/2 in. w by 11/64 in. deep by 9/32 in. high; 2 wire-lead type terminals; located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15C270G; Bendix Radio part/dwg no. OC220129-49.	feedback V410
C470		Same as C449.	cath V410
C471		Same as C401.	gr coup V410
C472		Same as C401.	pl byp V410
C473		Same as C401.	pl byp V411
C474		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 30,000 uuf ±30%; 400 v dc working; designed for rf application, rated at 0.80 amp at 1 to 10 mc rated at 40°C ambient temp; molded case per spec no. JAN-P-14; case dim, 1-15/32 in. w by 11/32 in. deep by 49/64 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted; spec JAN-C-91; JAN type no. CN42E303N.	spark suppressor K401

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C475		Same as C474.	spark suppressor K402
C476		Same as C474.	spark suppressor K406
C477		p/o E402. Not replaceable.	
C478		p/o E403. Not replaceable.	
C479		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; case style no. 22, MBCA ref dwg group 1; 10,000 mmf ±20%; 120 v dc working; black plastic case; case dim, 51/64 in. lg by 15/32 in. wide by 7/32 in. high; 2 wire-lead type terminals, located axially; impregnated per spec JAN-C-91; no internal ground connections; JAN type no CN20H103M.	RF filter
C480		Same as C479.	RF filter
C481		Same as C479.	RF filter
C482		Same as C479.	RF filter
C483		Same as C479.	RF filter
C484		Same as C479.	RF filter
C485		Same as C479.	RF filter
C486		Same as C479.	RF filter
C487		Same as C479.	RF filter
C488		Same as C479.	RF filter
C489		Same as C479.	RF filter
C490		Same as C479.	RF filter
C491		Same as C479.	RF filter
C492		Same as C479.	RF filter
C493		Same as C479.	RF filter
C494		Same as C479.	RF filter
C495		Same as C479.	RF filter
C496		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; case style no. 22, MBCA ref dwg group 1; 2,000 mmf ±20%; 400 v dc working; molded phenolic case; case dim, 49/64 in. lg by 29/64 in. wide by 15/64 in. high; 2 wire-lead type terminals, located axially; oil impregnated; no internal ground connections; mounts by terminals; Tobe Deutschmann Corp. part no. AP-002-M-400; Bendix Radio part/dwg no. OC220028-31.	RF filter
C497		Same as C496.	RF filter
C498		Same as C496.	RF filter
C499		Same as C496.	RF filter
C500		Same as C401.	RF filter
C501		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 6000 uuf ±20%; 200 v dc working; designed for rf application, rated 0.20 amp at 1 to 10 mc, at 40°C ambient temp; molded case per spec no. JAN-P-14; case dim, 51/64 in. w by 7/32 in. deep by 15/32 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted; spec no. JAN-C-91; JAN type no. CN20A602M.	RF filter
C502		Same as C479.	RF filter
C503		Same as C401.	pl byp V411
E401	6	OVEN, CRYSTAL: for 1 MIL type no. CR-28/U crystal unit; 75°C oven temp, –28° to +65°C, ambient temp range ±5°C; operating power requirements, 19 v ac, 60 cycles, single phase, 5.5 watts; temperature indicating device not included; 4 terminals, pin type, located on bottom (loktal type base connector); black plastic case per JAN-P-14/MTS-E-1 (GP); dim. of body, excluding terminals, 1.40 in. lg by 1.00 in. wide by 1.98 in. high; terminal-mounted; Bendix Radio part/dwg no. N200448-1.	crystal oven

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E402	6	OVEN, CRYSTAL: for 5 MIL type no. CR-27/U crystal units; 75°C oven temp; −23°C to +65°C ambient temp range ± 5°C; operating power requirements, 19 v ac, 60 cycles, single phase, 47 W starting, 11 W operating; temp indicating device not included; 8 solder lug type terminals, located on bottom; aluminum alloy case; body dim, excluding terminals, 2.25 in. lg by 1.84 in. wide by 3.30 in. high; mts by single 4-40 NC-2 thread insert bracket on base and two 5-40 NC-2 thread holes centered in base 1.562 in. c to c; has provision for one spare crystal unit; Bendix Radio part/dwg no. L205628-2.	crystal oven
E403	6	OVEN, CRYSTAL: for 12 MIL type no. CR-27/U crystal units; 75°C oven temp; −28° to +65°C ambient temp range ± 5°C; operating power requirements, 26.5 v ac, 60 cycles, single phase; 16 watts; temp indicating device not included; 16 solder lug type terminals, located on bottom; aluminum dim, excluding terminals, 2.04 in. lg by 3.56 in. wide by 3.00 in. high; mounts by two 5-40 NC-2 thread holes to wafer switch and by bracket, w/ 4-40 NC-2 thread hole, to mounting plate; marked w/0410 on top and crystal frequencies on side; Bendix Radio part/dwg no. N205651-2.	crystal oven
E404		Not used.	
E405		SHIELD, ELECTRON TUBE: copper or brass; cylindrical shape; 0.930 in. ID, by 1-3/8 in. high; locking keyway mounted; spec. no. JAN-S-28A; JAN type no. TS102U01.	for V404
E406		Same as E405.	for V405
E407		Same as E405.	for V407
E408		Same as E405.	for V409
E409	3	SHIELD, ELECTRON TUBE: copper or brass; cylindrical shape; 1.093 in. lg by 0.978 in. wide by 1.500 in. high; friction mounted; spec no. JAN-S-28A; JAN type no. TS103U01.	for V401
E410		Same as E409.	for V402
E411		Same as E409.	for V403
E412		Same as E409.	for V406
E413		Same as E409.	for V408
E414		Same as E409.	for V410
E415		Same as E409.	for V411
E416		TERMINAL, STUD: similar to style no. 21, ref dwg group 21; 4800 v ac insulation test; solder connections; brass terminal and stud, silicone impregnated ceramic insulation; terminal silver-plated, stud cadmium-plated; over-all dim, 0.781 in. lg by 5/16 in. w across hex flats; mounts by no. 6-32 stud 1/4 in. lg; Cambridge Thermionic Corp. part no. X1942-X; Bendix Radio part/dwg no. C243766-1.	tie point two required
E417		TERMINAL, STUD: style no. 58, MBCA ref dwg group 21; 12,000 v ac breakdown; solder connection; brass; hot tin dipped; 0.938 in. lg by 0.250 in. across flats of hex base; mounts by no. 4-40 tapped insert 0.187 in. deep; Elcon Mfg. Co. part no. TT-19, general purpose binding post; Bendix Radio part/dwg no. C243900-4.	tie point two required
E418 thru E424		Not used.	
E425		INSULATOR, FEED THROUGH: not illustrated in MBCA ref dwg group 21; not rated electrically; solder connections; Kovar lug, glass insulator, hot tin dip finish; 0.70 in. lg by 0.280 in. dia; solder mounted; Hermetic Seal Products Co. per Bendix dwg no. A214459; for chassis feed-thru; Bendix Radio part/dwg no. A214459.	tie point
E426		Same as E425.	tie point
E427		Not used.	
E428		RECEIVER SUBASSEMBLY: principal parts c/o 1 insulator plate; 2 base plate assy, 1 capacitor plate, 1 grounding plate, 5 adjustable tuning cores, 12 terminals, 2 clamps, 1 support assy; over-all dim, excluding clamps, 2.25 in. lg by 1.840 in. w by 1.016 in. h excluding support; single mtg hole no. 4-40 in support; used as socket assy to mount crystals in crystal oven; Bendix Radio part/dwg no. N206443-1.	for E402
E429		Not used.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E430		SOCKET ASSEMBLY, CRYSTAL: assy consists of provisions for 13 crystals (12 used in this application) individual socket data, 28 terminals, 2 terminals for ea crystal accommodation, and 2 terminals for heater connector; 0.246 in. lg contacts, 13 pairs at 0.486 in. c to c, one pair 0.440 in. c to c; 3 pairs spaced irregularly; black plastic mounting frame; over-all dim, 3.18 in. lg by 2.04 in. wide by 2.56 in. high; has one no. 4-40 thd mounting hole in bracket and two 1.66 in. lg mounting straps; base plate marked w/ F, G, H, J, K, L, M, N, O, P, Q, R, S; principal components of assy c/o 2 base plate assy, insulator plate, capacitor plate, grounding plate, supports assy, spacing plate; accommodates crystals in crystal oven assy; Bendix Radio part/dwg no. N206388-1.	for E403
E431	5	INSULATOR STANDOFF: molded mica filled phenolic body, grade and color per spec MIL-P-14A type MFE; brass, cadmium-plated inserts; 12,000 v breakdown voltage; cylindrical pillar shape, MBCA ref dwg group 9; item code no. 207, ref dwg group 9; dimensions, D-0.234 in., L-0.643 in., S-0.187 in., R-0.187 in.; one 4-40 thread tapped mounting hole centered on bottom; hex, 0.250 in. across flats on one end; Elcon Manufacturing Co. type no. PT-19-E; Bendix Radio part/dwg no. C243901-2.	tie point six required
E432	6	RECEIVER, SUBASSEMBLY: principal parts consist of 3 crystal ovens, 1 eleven contact test receptacle, 1 mechanical drive assembly, 1 set related electrical components; over-all dim, 13.87 in. lg by 4.98 in. wide by 7.06 in. high; mounts by four no. 10-24 NC-2 captive screws on 11 in. by 4 mounting centers; fungus proofed, supplied less tubes, tube shields, and crystals; controls reactance of variable frequency oscillator for exact frequency mixers, one oscillator, two frequency multipliers and single discriminator; Bendix Radio part/dwg no. OR281000-2.	IF subsection (less removable items)
H401	2	SCREW, EXTERNALLY RELIEVED BODY: stainless steel per Fed Spec QQ-S-763 class 7, black oxide finish; head data, hex, slot drive, 0.18 in. h by 0.375 in. w; body dim, 0.163 in. first dia from head, 4.53 in. from bearing surface to end of undercut, 4.97 in. lg over-all; 0.190 (no. 10) in. OD, 24 threads per in., NC, class 2 fit, 0.44 in. lg; Bendix Radio part/dwg no. L241957-4.	for mounting monitor
H402		Same as H401.	for mounting monitor
H403		Same as H401.	for mounting monitor
H404		Same as H401.	for mounting monitor
H405		PIN, TAPERED, PLAIN: stainless steel, passivate finish; 7/16 in. lg by 0.078 in. dia w/ 1/4 in. taper per ft; Bendix Radio part/dwg no. HP789R60-014.	for O429
H406		Same as H405.	for O430
H407		Same as H405.	for K401
H408		Same as H405.	for K401
H409		Not used.	
H410		PIN, TAPERED, PLAIN: stainless steel; passivate finish; 0.375 in. lg by 0.048 in. dia w/ 1/4 in. taper per ft; Bendix Radio part/dwg no. HSP789R-1.	for O419
J401		CONNECTOR, RECEPTACLE: 1 rd female contact; straight type; 0.849 in. lg excluding protruding terminal 11/16 in. wide by 11/16 in. high; radio frequency connector; 50 ohms nominal impedance rating, constant frequency impedance characteristic; cylindrical shape, brass, silver-plated, locking type body; insert per MIL-C-3608; 4 holes, 0.099 in. dia, tapped with no. 3-56 thread 0.090 in. deep spaced on 1/2 in. mounting centers; weather proof; spec no. MIL-C-3608; MIL type no. UG-290/U.	VFO input

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
J402		SOCKET, ELECTRON TUBE: 11 contacts, phosphor bronze, silver-plated; small body; round shape; 1-7/8 in. lg by 1-9/32 in. wide by 0.4841 in. deep; mica filled phenolic body; one piece saddle mounting, 1-1/8 in. dia chassis hole required; two 5/32 in. dia mounting holes spaced 1-1/2 in. c to c; American Phenolic Corporation part no. 77-M1P-11TM; Bendix Radio part/dwg no. OA113017-8.	
K401	6	CLUTCH, MAGNETIC: (suggested Federal item name) consists of mtg assem, relay armature, plunger, frame relay coil, hub assem, friction clutch subassem, contact assem; 27.5 v, 28 ohm coil; 2.156 in. lg by 2.427 in. wd by 1.906 in. h; two 0.154 in. hole diametrically opposite on 0.718 in. by 2.187 in. mtg. centers; Bendix Radio part/dwg no. N205865-7.	2nd digit clutch
K402		Same as K401.	3rd digit clutch
K403	6	RELAY, ARMATURE: contact data, arrangement 1A1B, 30 v dc, 1 amp; Form A contact makes before Form B contact breaks; coil data, 1 inductive winding, 28 ohms dc resistance, 27.5 v operating voltage; 4 terminals on contacts, 2 on coil; continuous duty; 2.427 in. lg by 1.906 in. w by 2.028 in. h; 2 mtg holes 0.154 in. dia irregularly spaced; incl friction clutch subassembly Bendix no. L205866-3; Bendix Radio part/dwg no. N205865-8.	4th digit clutch
K404		RELAY, ARMATURE: contact data, spst, normally open, single break; 30 v dc, 2 amp; coil data, 1 inductive winding; 118 ohms dc resistance 1.3 v operating voltage; 1 ungrounded terminal on contacts; 2 terminals on coil; intermittent duty; hermetically sealed; 1.656 in. lg by 1.438 in. w; by 2.672 in. h; 3 no. 0-32 by 3/8 in. lg mtg studs on 0.938 in. by 1.187 in. triangular mtg centers; contact terminal no. 3 to be grounded; Price Electric Co. part no. 4620-1-HSM; Bendix Radio part/dwg no. N218269-1.	2nd digit bridge
K405		Same as K404.	3rd digit bridge
K406		Same as K404.	4th digit bridge
L401		COIL, RADIO FREQUENCY: 1 single layer winding; 30 turns no. 33 AWG, enamel insulation; phenolic coil form; powdered iron core; adjustable core, screwdriver adjustment; over-all dim, 0.58 in. max dia by 1.28 in. max lg incl mtg bushing; 2 solder lug type terminals; mounts by 1/4 in. 32 bushing; fungus and moisture-proof; Bendix Radio part/dwg no. N215544-10.	pl V401
L402		COIL, RADIO FREQUENCY: 1 single pie winding approx 130 turns 3 strand no. 42 AWG litz; approx 250 uh to 300 uh at 800 kc; phenolic coil form; powdered iron core; adjustable core, screwdriver adjustment; over-all dim, 0.58 in. max dia by 1.28 in. max lg incl mtg bushing; 2 solder lug type terminals; mounts by 1/4 in. 32 bushing; fungus and moisture-proof; Bendix Radio part/dwg no. N215544-11.	pl V401
L403		Not used.	
L404		COIL, RADIO FREQUENCY: 1 single layer winding, 21 turns no. 28 AWG, double silk insulation; 1.56 uh ± 5% at 7.9 mc, 0.1 ohm dc resistance; molded phenolic coil form; over-all dim, approx 9/32 in. dia by 11/16 in. lg; 2 wire-lead type terminals; terminal-mounted; resistant to humidity; Electrical Reactance Corp. part no. RFC-111; Bendix Radio part/dwg no. OC215350-11.	pl V402B
L405		p/o Z401. Not replaceable.	
L406		p/o Z401. Not replaceable.	
L407		p/o Z402. Not replaceable.	
L408		p/o Z402. Not replaceable.	
L410		p/o Z403. Not replaceable.	
L411		p/o Z403. Not replaceable.	
L412		COIL, RADIO FREQUENCY: 1 single layer winding, 5 turns no. 26 AWG, enamel insulation; phenolic coil form; powdered iron core; adjustable core; screwdriver adjustment; over-all dim, 0.33 in. max dia by 1.18 in. max lg incl mtg stud; 2 bus wire type terminals; mounts by no. 8-32 bushing; fungus and moisture-proof; Bendix Radio part/dwg no. C217337-2.	cath V404
L413		p/o Z404. Not replaceable.	
L414		p/o Z404. Not replaceable.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
L415		COIL, RADIO FREQUENCY: 1 3-pie universal winding; 2 uh ±5% at 1000 cycles; approx 19.5 ohms dc resistance; 150 ma; iron core; over-all dim, 7/16 in. dia by 3/4 in. lg; 2 wire-lead type terminals; terminal-mounted; Q at 400 kc is 65 min resistant to humidity; Jeffers Electronics part no. 6501-2; Bendix Radio part/dwg no. C215351-2.	
L416		Same as L415.	cath V406
L417		p/o Z405. Not replaceable.	
L418		p/o Z405. Not replaceable.	
L419		p/o Z406. Not replaceable.	
L420		p/o Z406. Not replaceable.	
L421		p/o Z407. Not replaceable.	
L422		p/o Z407. Not replaceable.	
L423		Same as L415.	
L424		COIL, RADIO FREQUENCY: 1 single layer winding; 34 turns, no. 30 AWG; formvar insulation; 8.5 uh at 7.9 mc, 0.22 ohm max dc resistance; powdered iron coil form; approx over-all dim, 3/16 in. dia by 1/2 in. lg; 2 wire-lead type terminals; terminal-mounted; Jeffers Electronics Corp. part no. 10300-2; Bendix Radio part/dwg no. OC215350-24.	htr ckt choke
L425		Same as L424.	htr ckt choke
L426		COIL, RADIO FREQUENCY: 29 turns, no. 28 copper enamel covered conductor; 1 single layer winding, untapped, unshielded; molded phenolic form; 0.21 in. dia by 0.34 in. lg coil; 1/2 in. lg by 1/8 in. dia form; 2 rigid wire type terminals, located axially; terminal-mounted; radio frequency blocking coil; Hi-Q-Div. Aerovox Corporation part no. RFC-107; Bendix Radio part/dwg no. C215350-7.	choke cath V402B
L427		Same as L424.	RF filter
L428		Same as L424.	RF filter
L429		Same as L424.	RF filter
L430		Same as L424.	RF filter
L431		Same as L424.	RF filter
L432		Same as L424.	RF filter
L433		Same as L424.	RF filter
L434		Same as L424.	RF filter
L435		Same as L424.	RF filter
L436		Same as L424.	RF filter
L437		Same as L424.	RF filter
L438		COIL, RADIO FREQUENCY: 13 uh at 2.5 mc; 0.1 ohm, 28 turns no. 26 copper Formvar, 1 single layer winding, untapped, unshielded ceramag no. 2; 0.230 in. dia by 0.446 in. lg; coil 0.625 in. lg by 0.198 in. dia form; 2 rigid wire type terminals, located axially; terminal-mounted; radio frequency blocking coil; Hi-Q-Div. Aerovox Corp. part no. RFC-123; Bendix no. C215350-23.	RF filter
L439		Same as L438.	RF filter
L440		Same as L424.	RF filter
L441		Same as L438.	RF filter
L442		Same as L424.	RF filter
L443		Same as L424.	RF filter
L444		Same as L424.	RF filter
L445		Same as L424.	RF filter
L446		Same as L424.	RF filter
L447		Same as L424.	RF filter
L448		COIL, RADIO FREQUENCY: 1 3-pie universal winding; 10 uh at 1000 cycles, approx 43 ohms dc resistance; ceramag no. 2 or equal coil form; approx 25/64 in. dia by 5/8 in. lg; 2 wire-lead type terminals; terminal-mounted; Bendix Radio part/dwg no. C284040-1.	RF filter
L449		Same as L424.	RF filter
L450		Same as L424.	RF filter
O401		RING, RETAINING: aluminum alloy, etch finish; rd; 0.195 in. ID, 0.280 in. OD by 0.085 in. lg; Bendix Radio part/dwg no. A28839.	for H401
O402		Same as O401.	for H402

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O403		Same as O401.	for H403
O404		Same as O401.	for H404
O405		BEARING, BALL ANNULAR: ground; single row; radial, non-loading groove; self-contained, both rings flush; 0.1250 in. bore dia; 0.3750 in. OD; 0.1562 in. w over-all; 2 steel shields; retainer type; pressed construction steel; ABEC-1 tolerance; std fit; MIL-C-3278 lubrication; New Departure Div of General Motors Corp. part no. 77-R-2-X1E; Bendix Radio part/dwg no. C240186-1.	for O420
O406		Same as O405.	for O420
O407		Same as O405.	for O421
O408		Same as O405.	for O421
O409		Same as O405.	for O422
O410		Same as O405.	for O422
O411		Same as O405.	for O423
O412		Same as O405.	for O423
O413		Same as O405.	for O416
O414		Same as O405.	for O417
O415		Same as O405.	for O418
O416		GEAR, SPUR: plain, style no. 2, section A, ref dwg group 170; stainless steel per Fed spec QQ-S-763 class 7; passivated finish; 36 teeth, 20 deg pressure angle, teeth not hardened; 0.7888 in. OD, 0.7472 in. pitch dia, 0.064 in. width of face, 0.220 in. lg over-all; 0.50 in. OD of AA hub end, 0.156 in. from end AA hub to gear face; stepped bore, 0.312 in. dia and 0.3746 in. dia, 0.060 in. lg and 0.160 in. lg step respectively; Bendix Radio part/dwg no. C238415.	part of gear train
O417		Same as O416.	part of gear train
O418		Same as O416.	part of gear train
O419		GEAR, SPUR: webbed, style no. 10, section A, ref dwg group 170; phosphor bronze per ASTM B139-46T grade B2, 56 teeth, 20 deg pressure angle, teeth not hardened; 1.2055 in. OD, 1.1638 in. pitch dia, 0.125 in. width of face, 0.32 in. lg over-all; 0.38 in. OD of AA hub end, 0.195 in. from end of AA hub to gear face; straight 0.1248 in. dia by 0.255 in. lg through bore; 1 no. 4-40 set screw hole, one 0.032 in. dia hole for pin; setscrew and pin holes located 90° apart on AA end of hub, section A, ref dwg group 170; Bendix Radio part/dwg no. A238409.	part of gear reduction unit
O420		GEAR ASSEMBLY: c/o 1 ea Gear Bendix part no. A238449-2 and Gear no. C238412; cylindrical shape; 1 in. OD by 0.766 in. lg over-all; shaft mounted; Bendix Radio part/dwg no. C205146-1.	drives O421
O421		GEAR ASSEMBLY: c/o 1 ea Gear Bendix part no. A238449-1 and Gear no. C238413; cylindrical shape; 1 in. OD by 0.766 in. lg over-all; shaft mounted; Bendix Radio part/dwg no. C205147-1.	drives O422
O422		GEAR ASSEMBLY: c/o 1 ea Gear Bendix part no. A238410 and Gear part no. C238414; cylindrical shape; 1.250 in. OD by 0.766 in. lg over-all; shaft mounted; Bendix Radio part/dwg no. C205148-1.	drives O423
O423		GEAR, SPUR: phosphor bronze gear mtd on ss shaft; straight teeth; 60 teeth; 48 diametral pitch, 1.247 in. pitch dia; 1.288 in. OD by 1.156 in. lg; straight face; mts by each end of 0.1245 in. dia shaft; Bendix Radio part/dwg no. C205149-1.	part of gear reduction unit
O424		Not used.	
O425		Not used.	
O426		Not used.	
O427		Not used.	
O428		Not used.	
O429		ACTUATOR, SWITCH: SS, passivated; round w/hub; 1-1/16 in. OD by 0.040 in. thk less hub, hub is 0.16 in. thk; mts to shaft by 0.252 in. dia hole in hub; two 4-40 NC-2 thd holes in hub for set screws; slot 1/8 in. wd in plate for lever handle; Bendix Radio part/dwg no. A228705-2.	for K401

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O430		Same as O429.	for K402
O431		Not used.	
O432		CLUTCH, FRICTION: c/o shaft assem, gear assem and detent plate; 2.5 inch lbs ± 2 inch oz; round; 1.18 in. lg by 1.539 in. OD over-all; shaft mtd; Bendix Radio no. L205866-1.	part of K401
O433		Same as O432.	part of K402
O434		CLUTCH, FRICTION: c/o shaft assem, gear assem and detent plate; 3.5 inch lbs ± 2 inch oz; round; 1.18 in. lg by 1.539 in. OD over-all; shaft mtd; Bendix Radio part/dwg no. L205866-3.	part of K403
O435		ARM: c/o hub w/dog shape spring; brass, hub, copper spring, cad pl all-over; 23/32 in. lg by 7/16 in. wd by 21/64 in. thk o/a; no. 4-40 tapped hole for set screw and 0.052 in. dia hole for pin spaced 65° apart on circum of hub; Bendix Radio part/dwg no. C205678-1.	part of drive
O436		Same as O435.	part of drive
O437		Not used.	
O438	4	GEAR, SPUR: plain style no. 1, section A, MBCA ref dwg group 170; phosphor bronze per USAF spec no. 40952, type no. B139-46T, grade B2; 72 teeth, 20 deg pressure angle, teeth not hardened; 1.5388 in. OD of gear, 1.4972 in. pitch dia, 0.125 in. wide face, 0.145 in. lg over-all; straight bore, 0.3750 in. dia countersunk to 0.395 in. dia by 90° on both sides, 0.125 in. lg thru bore; shaft mounted; includes 6 carbon friction discs, 3 cemented to ea side of gear, equally spaced on 0.419 in. radius from bore axis; Bendix part/dwg no. C205305-1.	part of gear train
O439		COUPLING, SHAFT, FLEXIBLE: Intermediate metallic plate type; end plates are stainless steel (303) per Federal spec. QQ-S-763 class 7, center plate is stainless steel (302) per Federal spec. QQ-S-766 class 2; passivate finish; hp not rated; for rd type shaft, has 0.252 in. dia bore; 1.16 in. OD by 0.46 in. lg; setscrew mounted by four holes—two no. 4-40 NC-2 tapped holes in each hub; Bendix part no. C282246-2.	for K403, S403
P401		CONNECTOR, PLUG: 1 rd. male contact; straight type; 31/32 in. lg by 27/64 in. dia; contacts not rated electrically; radio frequency connector, 52 ohms impedance, non-constant impedance characteristic; cylindrical shape, brass, silver-plated, locking type body; teflon insert; accommodates RG-55/U and RG-58/U cable; self-sustaining on end of cable; spec no. MIL-C-3608; JAN type no. UG-88/U.	output VFO p/o W603
P603		CONNECTOR, PLUG: 32 male flat contacts; polarized; straight type; 4.652 in. lg by 0.625 in. w by 1.067 in. high; contacts electrically rated 5 amp; rectangular shape body; black molded plastic, spec no. JAN-P-14 type no. MTS-E-1; two 0.136 in. dia by 0.380 in. lg, mtg holes spaced 3.952 in. c to c; Cannon Electric Development Co. part no. 17968-18; Bendix part/dwg no. L223229.	chassis connector
R401		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 220 ohms ± 10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF221K.	parasitic suppressor pl V401
R402		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 100,000 ohms ± 10%; 1/2 w rated at 40°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF104K.	gr leak V401
R403		Same as R401.	meter shunt V401
R404		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1,000 ohms ± 10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF102K.	cath bias V401
R405		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3300 ohms ± 10%; 1/2 w rated at 40°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2-wire lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF332K.	cath bias V401
R406		Same as R405.	pl decoup V401

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R407		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 470,000 ohms ±10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF474K.	gr leak V403A
R408		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 470 ohms ±10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF471K.	cath bias V402B
R409		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1000 ohms ±10%; 1/2 w rated at 70°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20GF102K.	pl decoup V402B
R410		Same as R407.	gr leak V403B
R411		Same as R409.	cath bias V403B
R412		p/o Z401. Not replaceable.	
R413		p/o Z401. Not replaceable.	
R414		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 390,000 ohms ±10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF394K.	pl drop V403A
R415		Same as R401.	parasitic suppressor V402A
R416		Same as R405.	cath bias V402A
R417		p/o Z403. Not replaceable.	
R418		p/o Z403. Not replaceable.	
R419		Same as R409.	pl decoup V402A
R420		Same as R402.	gr leak V404
R421		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 33,000 ohms ±10%; 1 watt; characteristic F; 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity and salt water immersion; 2 axial wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC30GF333K.	scr drop V404
R422		p/o Z404. Not replaceable.	
R423		p/o Z404. Not replaceable.	
R424		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3300 ohms ±10%; 1 w rated at 70°C ambient temp; characteristic F; 0.750 in. lg by 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC30GF332K.	pl decoup V404
R425		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 220,000 ohms ±10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF224K.	gr leak V406
R426		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 4700 ohms, total resistance ±10%, 1/2 w power dissipation rated at 40°C ambient temp; resistance temp characteristic F; body dim. 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11; JAN type no. RC20BF472K.	meter shunt V406
R427		Same as R402.	gr leak V405
R428		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 330 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF331K.	cath bias V405
R429		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 22,000 ohms ±10%; 1 watt; characteristic F; 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity and salt water immersion; 2 axial wire lead type terminals; spec no. JAN-R-11; JAN type no. RC30GF223K.	scr drop V405
R430		Same as R409.	pl decoup V406
R431		Same as R425.	gr leak V406

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R432		Same as R426.	meter shunt V406
R433		p/o Z405. Not replaceable.	
R434		p/o Z405. Not replaceable.	
R435		Same as R402.	
R436		Same as R428.	
R437		Same as R429.	gr leak V407
R438		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 1 megohm ±10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF105K.	gr lead V408
R439		Same as R402.	RF filter gr V408
R440		Same as R409.	pl decoup V407
R441		Same as R409.	cath bias V410
R442		Same as R407.	pl load V408
R443		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 47,000 ohms ±10%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity and salt water immersion; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF473K.	meter shunt V408
R444		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 68,000 ohms ±5%; 1/4 w rated at 40°C ambient temp; characteristic F; 0.406 in. lg by 0.170 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC10BF683J.	load V409
R445		Same as R444.	load V409
R446		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 120,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF124K.	meter isolation V409
R447		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 330,000 ohms ±10%; 1/2 w rated at 40°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20BF334K.	meter isolation V409
R448		Same as R409.	pl decoup V410
R449		Same as R425.	gr leak V410
R450		Same as R404.	meter shunt V410
R451		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 2.7 meg ±5%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 axial wire-lead type terminals; spec no. MIL-R-11A; JAN type no. RC20GF275J.	gr coup V411
R452		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 180,000 ohms ±5%; 1/2 w rated at 70°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20GF184J.	gr leak V411
R453		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1500 ohms ±10%; 1/2 w rated at 70°C ambient temp; characteristic F; 0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20GF152K.	cath bias V411
R454		Same as R407.	RF filter V411
R455		Same as R407.	gr leak V410
R456		Same as R409.	pl decoup V410
R457		RESISTOR, FIXED, WIREWOUND: body style no. 14, ref dwg group 2; inductive winding; 39 ohms ±10%; 1/2 w, 200°C max continuous operating temp; 0.625 in. lg by 0.218 in. OD; ceramic sleeve and end seal, resistant to humidity; 2 wire-lead type terminals; terminal-mounted; must dissipate 6 w at +85°C for 5 min in free space; Wilkor Products Co. Inc. part no. WC-39; Bendix Radio part/dwg no. C220572-1.	holding K401
R458		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 470 ohms ±10%; 1 w rated at 70°C ambient temp; characteristic F; 0.750 in. lg by 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC30GF471K.	spark suppressor K401
R459		Same as R457.	holding K402

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R460		Same as R458.	spark suppressor K402
R461		Same as R457.	holding K403
R462		Same as R458.	spark suppressor K403
R463		RESISTOR, FIXED, WIREWOUND: body style no. 116, ref dwg group 2; inductive winding; 200 ohms ±0.5%; 1 w section A+ 85°C ambient temp; 8 fixed taps-16.3 ohms, 20.5 ohms, 24.0 ohms 25.6 ohms, 27.2 ohms, 25.6 ohms, 24.0 ohms, 20.5 ohms and 16.3 ohms resistance between fixed taps; 2.50 in. lg by 0.56 in. dia; baked melamine lacquer coating, resistant to humidity; ten 0.58 in. lg tab type terminals; mtg hardware required; not polarized; Shallcross Mfg Co. Inc. type no. 9051; Bendix Radio part/dwg no. C220545-1.	3rd digit bridge
R464		Same as R463.	
R465		Same as R463.	
R466-1		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 10 ohms ±5%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11; JAN type no. RC20GF100J.	2nd digit bridge 4th digit bridge compensation R464
R466-2		Same as R466-1.	
R466-3		Same as R466-1.	
R467-1		Same as R466-1.	
R467-2		Same as R466-1.	compensation R463
R467-3		Same as R466-1.	
R468		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 8.2 meg ±5%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 axial wire-lead type terminals; spec no. MIL-R-11A; JAN type no. RC20GF825J.	feedback V411
R469		RESISTANCE, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 6.8 meg ±5%; 1/2 watt; characteristic F; 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 axial wire-lead type terminals; spec no. MIL-R-11A; JAN type no. RC20GF685J.	feedback V411
S401		p/o E401. Not replaceable.	
S402		p/o E401. Not replaceable.	
S403 A, B, C, D, E, F		SWITCH, ROTARY: 5 sections; 20 positions max number of switching positions possible; 11 poles, 20 throws; electrical ratings (section 4 only)-30 v dc, 0.2 amp; spring silver alloy contacts and coin silver rotors; phenolic sections per MIL-P-3115-A grade PBE-P; 3.18 in. lg by 1.875 in. high by 1.625 in. wide; mounted by two 4-40 threads studs 1/4 in. lg, 1.562 in. c to c; round 0.20 in. lg by 0.250 in. dia shaft; solder lug terminals; no detents, no stops, resistant to salt spray, fungus proof treated phenolic; Grisby-Allison Co., Inc. per Bendix dwg no. L218598-1.	A. 1st digit selector B. tuning primary Z401 C. tuning secondary Z401 D. motor control amplr disabling E. segment selector F. 1st and 2nd digit bridge positioning
S404 A, B, C		SWITCH, ROTARY: 3 sections; 12 positions max number of switching positions possible; 3 moving contacts, 20 fixed contacts, 2 dummy terminals; combination shorting and non-shorting spring silver alloy contacts; phenolic section insulation; physical dim, incl shields, 2.18 in. lg by 1.88 in. w by 1.97 in. high; 2 no. 5-40 mtg studs spaced 1.562 in. c to c; rd, 0.260 in. lg by 0.250 in. dia shaft; solder lug terminals; marked w/Bendix part number, incl shields between sections; Oak Mfg Co. part no. 54053-DH3; Bendix Radio part/dwg no. L218145-215.	A. 3rd digit bridge positioning B. crystal selector C. crystal selector
S405 A, B, C, D		SWITCH, ROTARY: 3 sections; 12 positions max number of switching positions possible; 4 moving contacts, 26 fixed contacts, 2 dummy terminals; combination shorting and non-shorting spring silver alloy contacts; phenolic section insulation; 2.12 in. lg by 1.88 in. dia; 2 through mtg studs threaded both ends no. 5-40 spaced 1.562 in. c to c; rd, 0.260 in. lg by 0.250 in. dia shaft; solder lug terminals; fungus proof; Oak Mfg Co. part no. 54052-DH3; Bendix Radio part/dwg no. L218145-214.	A. 4th digit bridge positioning B. crystal selector C. crystal selector D. crystal selector

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
S406		Not used.	
S407		Not used.	
S408		p/o E402. Not replaceable.	
S409		p/o E402. Not replaceable.	cath bias V407
S410		p/o E403. Not replaceable.	scr drop V407
S411		p/o E403. Not replaceable.	
V401		ELECTRON TUBE: twin triode; glass RMA envelope T-6-1/2; 9 pin type 1 terminals located on bottom; receiving tube; spec no. MIL-E-1B; JAN type no. 5670.	1st osc and freq quintupler
V402		Same as V401.	1st mixer and isolation amplr
V403		Same as V401.	harmonic generator and freq doubler
V404		ELECTRON TUBE: pentode; glass RMA envelope T-5-1/2; 7 pin type terminations located on bottom; receiving tube; spec no. MIL-E-1B; JAN type no. 5654/6AK5W.	2nd mixer
V405		ELECTRON TUBE: pentode; glass, RMA envelope T-5-1/2; 7 pin type terminations located on bottom; beam power amplifier; spec no. MIL-E-1B; JAN type no. 6AS6.	3rd mixer
V406		Same as V401.	2nd and 3rd osc
V407		Same as V405.	4th mixer
V408		Same as V401.	clutch control
V409		ELECTRON TUBE: twin diode; glass RMA envelope T-5-1/2; 7 pin type terminations located on bottom; receiving tube; spec no. MIL-E-1B; JAN type no. 5726/6AL5W.	discriminator
V410		Same as V401.	4th osc and cath follower
V411		Same as V401.	motor control
Y401		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 833.333 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-28/U; Bendix Radio part/dwg no. L221909-1.	1st osc freq control
Y402		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3400.000 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U; marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-3.	2nd osc freq control
Y403		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3233.333 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-2.	2nd osc freq control
Y404		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3900.000 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-6.	2nd osc freq control
Y405		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3733.333 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-5.	2nd osc freq control
Y406		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3566.667 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-4.	2nd osc freq control

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
Y407		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3716.667 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-11.	3rd osc freq control
Y408		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3700.000 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A; Bendix Radio part/dwg no. L221909-10.	3rd osc freq control
Y409		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3683.333 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3908A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-9.	3rd osc freq control
Y410		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3666.667 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3908A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-8.	3rd osc freq control
Y411		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3650.000 kc nom frequency of plate ±0.002% tolerance at 75°C: Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-7.	3rd osc freq control
Y412		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3800.000 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-15.	3rd osc freq control
Y413		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3783.333 kc nom frequency of plate ±0.002% tolerance 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-14.	3rd osc freq control
Y414		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3766.667 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-13.	3rd osc freq control
Y415		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 3750.000 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-12.	3rd osc freq control
Y416		Same as Y405.	3rd osc freq control
Y417		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 5181.250 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-17.	4th osc freq control
Y418		CRYSTAL UNIT, QUARTZ: 1 crystal plate incl; 5172.917 kc nom frequency of plate ±0.002% tolerance at 75°C; Army-Navy Crystal Holder HC-6/U, marked w/nom frequency in kc and w/type designation; −55°C to +90°C temp range; air gap not externally adjustable; spec no. MIL-C-3098A, type no. CR-27/U; Bendix Radio part/dwg no. L221909-16.	4th osc freq control

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
Z401		TRANSFORMER, RADIO FREQUENCY: 3.2 and 10.9 mc peak frequencies; 2 windings; primary winding-22 turns no. 28 AWG wire; 0.092 ohm dc resistance, untapped; secondary winding-22 turns no. 28 AWG wire; 0.092 ohm dc resistance, untapped; tin-plated copper case; plastic coil form; 0.95 in. lg by 0.95 in. w by 2.27 in. high; primary and secondary tuned w/adjustable iron core located on top of case; 2 no. 6-32 mtg studs spaced 0.38 in. c to c; 4 solder post type terminals; marked w/Bendix part number; incl 1 ficed resistor across ea winding; Bendix Radio part/dwg no. L205602-3.	harmonic generator V403
Z402		TRANSFORMER, RADIO FREQUENCY: 8.33 mc design peak frequency; 2 windings; primary winding-22 turns no. 30 AWG wire, 0.180 ohm dc resistance, untapped; secondary winding-22 turns no. 30 AWG wire; 0.180 ohm dc resistance, untapped; copper case; phenolic form; over-all dim, 0.95 in. lg by 0.95 in. w by 2.27 in. h; primary and secondary tuned w/adjustable iron core located on top of case; 2 no. 6-32 mtg studs spaced 0.38 in. c to c; 4 solder post type terminals marked w/Bendix part number; incl 1 ea fixed capacitor across ea winding; coil assemblies and capacitors fungus proofed; Bendix Radio part/dwg no. N206859-2.	freq doubler V403B
Z403		TRANSFORMER, RADIO FREQUENCY: 12.5 and 20.8 mc peak frequencies: 2 windings; primary winding-12 turns no. 28 AWG wire; 0.049 ohm dc resistance, untapped; secondary winding-14 turns no. 28 AWG wire; 0.056 ohm dc resistance, untapped; tin-plated copper case; phenolic form; over-all dim, 0.95 in. lg by 0.95 in. w by 2.27 in. high; primary and secondary tuned w/adjustable iron core located on top of case; 2 no. 6-32 mtg studs spaced 0.38 in. c to c; 4 solder post type terminals; marked w/Bendix part number; incl 1 ea fixed capacitor and fixed resistor across ea winding; Bendix Radio part/dwg no. L205604-4.	1st bandpass V402A
Z404		TRANSFORMER, RADIO FREQUENCY: 12.0 to 12.9 mc design frequency range; 2 windings; primary winding-1.5 uh inductance measured at 12.4 mc; 15 turns no. 26 AWG wire; 0.04 ohm dc resistance; secondary winding-1.5 uh inductance measured at 12.4 mc; 15 turns no. 26 AWG wire; 0.04 ohm dc resistance; tin-plated copper case; phenolic form; over-all dim, 0.95 in. lg by 0.95 in. w by 2.27 in. h; primary and secondary tuned by adjustable iron core located on top of case; 2 no. 6-32 mtg studs spaced 0.380 in. c to c; 4 solder post type terminals; marked w/Bendix part number; incl 1 ea fixed resistor and fixed capacitor across ea winding; Bendix Radio part/dwg no. L215724-3.	2nd bandpass V404
Z405	6	TRANSFORMER, RADIO FREQUENCY: 8.9 mc peak frequency; 2 windings; primary winding-22 turns, no 28 AWG wire; 0.092 ohm dc resistance, untapped; secondary winding-22 turns no. 28 AWG wire; 0.092 ohm dc resistance, untapped; tin-plated copper case; phenolic form; 0.95 in. lg by 0.95 in. w by 2.27 in. high; primary and secondary tuned by adjustable iron core located on top of case; 2 no. 6-32 mtg studs spaced 0.38 in. c to c; 4 solder post type terminals; marked w/Bendix part number; incl 1 ea fixed capacitor and fixed resistor across ea winding; Bendix Radio part/dwg no. L205606-3.	3rd bandpass V405
Z406	6	TRANSFORMER, RADIO FREQUENCY: 5.1 mc peak frequency; 2 windings; primary winding-40 turns no. 30 AWG wire; 0.26 ohm dc resistance, untapped; secondary winding-38 turns no. 30 AWG wire; 0.26 ohm dc resistance, untapped; tin-plated copper case; phenolic form; over-all dim, 0.95 in. lg by 0.95 in. w by 2.27 in. high; primary and secondary tuned by adjustable iron core located on top of case; 2 no. 6-32 mtg studs spaced 0.38 in. c to c; 4 solder post type terminals; marked w/Bendix part number; incl 1 fixed capacitor across ea winding; Bendix Radio part/dwg no. L205603-3.	4th bandpass V407

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
Z407	6	TRANSFORMER, DISCRIMINATOR: 8.1 mc peak frequency; discriminator; shielded; over-all dim, 0.95 in. lg by 0.95 in. w by 2.27 in. high; natural plastic coil forms, powdered iron cores; double tuned; iron core tuning; 2 no. 6-32 studs spaced 0.400 in. c to c; 5 solder post type terminals; marked w/Bendix part number; Bendix Radio part/dwg no. L205605-3.	discriminator V409
HR401		p/o E401. Not replaceable.	
HR402		p/o HR407. Not replaceable.	
HR-404		p/o HR407. Not replaceable.	
HR-405		p/o HR408. Not replaceable.	
HR406		p/o HR408. Not replaceable.	
HR407		HEATING ELEMENT, ELECTRICAL: coil type; 2 wire, 10 turn, 10 ohm 90 w booster wnd; 1 wire, 17 turn, 33 ohm, 27 w control wnd; double sect; rectangular box shaped aluminum form; 1.90 in. lg by 1.65 in. wd by 1.62 in. h o/a; integral plug w/2 male cont; mtd by "clip-on" base to base plate; held in place by pressure between the cover on the top and the base plate; xtal oven heater element; incl 2 thermostatic sw and coil form subassemb; Bendix Radio part/dwg no. N206472-1.	p/o E402
HR408		HEATING ELEMENT, ELECTRICAL: coil type; 2 wire, 8 turns, 6-3/4 ohms, 130 w booster wnd; 1 wire, 13 turns, 21-3/4 ohm, 40 w control wnd; double sect; rectangular box shaped aluminum form; 2.97 in. lg by 2.00 in. wd by 1.62 in. h o/a; integral plug w/2 male cont; mtd by "clip-on" base to base plate; held in place by pressure between the cover on top and the base plate; xtal oven heater element; incl 2 thermostatic sw and coil form subassem; Bendix Radio part/dwg no. N206374-1.	p/o E403
TB401	2	TERMINAL BOARD: natural plastic board per MIL-P-997/GSG; w/o terminals, accommodates 26 terminals; w/o barriers; 3.52 in. lg by 1.06 in. wide by 0.062 in. thick over-all; two 0.111 in. dia mounting holes spaced 3.22 in. center to center; marked w/numbers; Bendix Radio part/dwg no. L293923-1.	component mounting
TB402	2	TERMINAL BOARD: natural plastic; incl 7 double ended solder post type terminals; over-all dim, 1.52 in. lg by 1.14 in. w by approx 3/32 in. thk; two 0.136 in. dia mtg holes spaced 0.44 in. c to c; marked w/digits "1" through "7"; Bendix Radio part/dwg no. C281643-1.	interconnecting
TB403		Not used.	
TB404	2	TERMINAL BOARD: natural plastic per spec no. MIL-P-997, type GSG; incl 12 solder post type terminals; over-all dim, 2.78 in. lg by 1.96 in. w by approx 1/8 in. thk; three 0.161 in. dia mtg holes irregularly spaced; marked w/symbol designations; Bendix Radio part/dwg no. C281768-1.	component mounting
TB405	2	TERMINAL BOARD: natural plastic per spec no. MIL-P-997, type GSG; incl 10 solder post type terminals; over-all dim, 1.74 in. lg by 1.64 in. w by approx 1/8 in. thk; two no. 4-40 mtg holes in spacing posts located 1 in. c to c; marked w/symbol designations; Bendix Radio part/dwg no. C281924-1.	component mounting
XE401		SOCKET, ELECTRON TUBE: 8 contacts, beryllium copper, silver-plated finish; loktal; over-all dim, 1.592 in. lg by 1.190 in. w by 0.350 in. high; molded mica body; one-piece saddle mtg; 1 in. dia chassis hole required; 2 mtg holes, 0.140 in. dia spaced 1.312 in. c to c; Cinch Mfg Corp. part no. ER-344; Bendix Radio part/dwg no. C223248-1.	for E401
XV401		SOCKET, ELECTRON TUBE: 9 contacts, copper-base non-magnetic alloy, silver-plated; noval; oval; over-all dim, 1-3/8 in. lg by 1.035 in. wide by 25/32 in. high; ceramic body; one-piece saddle, top mounting; 3/4 in. dia chassis hole required; two mounting holes, 0.125 in. dia spaced 1.125 in. c to c; spec no. JAN-S-28A; JAN type no. TS103C01.	for V401
XV402		Same as XV401.	for V402
XV403		Same as XV401.	for V403

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
XV404		SOCKET, ELECTRON TUBE: 7 contacts, copper, silver-plated; contact no. 8 missing; miniature; round; over-all dim, 1-1/8 in. lg by 0.900 in. wide by 25/32 in. high; ceramic body; one-piece saddle mounting; 5/8 in. chassis hole required; 2 mounting holes, 1/8 in. dia spaced 7/8 in. c to c; spec no. JAN-S-28A; JAN type no. TS102C01.	for V404
XV405		Same as XV404.	for V405
XV406		Same as XV401.	for V406
XV407		Same as XV404.	for V407
XV408		Same as XV401.	for V408
XV409		Same as XV404.	for V409
XV410		Same as XV401.	for V410
XV411		Same as XV401.	for V411
601 thru 699	6	RECEIVER SUBASSEMBLY: c/o-1 chassis base, 3 selector switches, 1 indicator lamp, miscellaneous electrical parts; over-all dim, 23.02 in. lg, 20.93 in. wide, 11.04 in. high, mounts to drawer slide on both sides and is held in cabinet by eight 1/4-20NC-2 thread captive screws irregularly spaced around edge of front panel; Bendix Radio part/dwg OR280072-1; monitor, IF Audio, and rf sections mount to receiver chassis base and form complete receiver; Navy spec. MIL-D-16252 (Ships).	
C601		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 10,000 uuf, ±20%; working voltage-120 v dc; designed for rf application, rated 0.196 amp at 1 to 10 mc, at 40°C ambient temp; molded case per spec no. JAN-P-14; case dim, ref dwg group 1-A-51/64 in. w, B-7/32 in. deep, C-15/32 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted; JAN spec, JAN-C-91, type no. CN20H103M.	RF filter
C602		Same as C601	RF filter
C603		Same as C601.	RF filter
C604		Same as C601.	RF filter
C605		Same as C601.	RF filter
C606		Same as C601.	RF filter
C607		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 470 mmf ±20%; 300 v dc working; temperature coefficient not specified; molded low-loss bakelite case; 0.52 in. lg by 0.30 in. wide by 0.22 in. thick; 2 wire-lead type terminals located axially; terminal-mounted; Electro Motive Mfg Co. Inc. part no. VCM15B471M 300 WV; Bendix Radio part/dwg no. OC220125-39.	RF filter
C608		Same as C601.	RF filter
C609		Same as C601.	RF filter
C610		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 50,000 uuf, ±20%; working voltage-400 v dc; designed for rf application, rated 1 amp at 1 to 10 mc, at 40°C ambient temp; molded case per spec no. JAN-P-14; case dim, ref dwg group 1-A-1-15/32 in. w, B-15/32 in. deep, C-49/64 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted JAN spec, JAN-C-91; type no. CM43E503M.	RF filter
C611		Not used.	
C612		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 10,000 uuf, ±20%; working voltage-400 v dc; case data, metal w/ plastic insulating sleeve, hermetically sealed; case dim, ref dwg group 1-A-0.297 in. dia, G-3/4 in. lg; 2 wire-lead type terminals, located axially; vitamin "Q" or equivalent impregnated; internally grounded 1 end; terminal-mounted; Sprague Electric Co. part no. 81P1030483; Bendix Radio part/dwg no. L220250-2.	RF filter
C613		Same as C612.	RF filter
C614		Same as C612.	RF filter
C615		Same as C612.	RF filter
C616		Same as C601.	RF filter
C617		Not used.	
C618		Same as C601.	RF filter

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C619 A, B, C		CAPACITOR, FIXED, PAPER DIELECTRIC: 3 section; 250,000 uuf ea section, +20 −10% working voltage-600 v dc; hermetically sealed metal case; case dim, ref dwg group 1-A-2 in. w, B-1-3/4 in. deep, C-7/8 in. high; 3 solder lug type terminals, located on side; impregnated per spec no. JAN-C-25; ea section internally grounded; mtg data, 2 integral mounting ears ea w/ hole 3/16 in. dia, spaced 2-3/8 in. c to c; JAN spec, JAN-C-25, type no. CP53B5EF254V.	A. 6.3 v htr ckt filter B. 19 v htr ckt filter C. pos bridge filter
C620		Not used.	
C621		Not used.	
C622		Not used.	
C623		Not used.	
C624		Same as C601.	IF filter
C625		Same as C601.	IF filter
C626		Same as C601.	IF filter
C627		Same as C601.	IF filter
C628		Same as C612.	IF filter
C629		Same as C601.	IF filter
C630		Same as C601.	IF filter
C631		Not used.	
C632		Not used.	
C633		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 6000 uuf ±20%; working voltage-200 v dc; designed for rf application, rated 0.20 amp at 1 to 10 mc, at 40°C ambient temp; molded case per spec no. JAN-P-14; case dim, ref dwg group 1-A-51/64 in. w, B-7/32 in. deep, C-15/32 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted; JAN spec, JAN-C-91, type no. CN20A602M.	IF filter
C634		Same as C633.	IF filter
C635		Same as C612.	IF filter
C636		Same as C633.	IF filter
C637		Same as C633.	IF filter
C638		Not used.	
C639		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 500,000 uuf, +40 −15%; working voltage-400 v dc; hermetically sealed metal case; case dim, ref dwg group 1-A-1-13/16 in. w, B-1 in. deep, C-7/8 in. high; 2 solder lug type terminals, located on side; impregnated per spec no. JAN-C-25; no internal ground connections; mtg data, 2 integral mtg ears ea w/ hole 3/16 in. dia, spaced 2-1/8 in. c to c; JAN spec, JAN-C-25, type no. CP53B1EE504M.	htr byp
C640		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf ±20%; 500 v dc working; temp coefficient variable; uninsulated body; case dim, ref dwg group 1-A-5/16 in. w, G-5/8 in. lg; 2 axial hook type terminals, 1 mtg bushing terminal, 1 term 0.24 in. lg, 1 term 0.27 in. lg; feed-through method of mtg, no. 12-28 thread for mtg; Erie Resistor Corp. type no. 357-Hi-K-12; Bendix Radio part/dwg no. C220077-1.	RF filter
C641		Same as C640.	RF filter
C642		Same as C640.	RF filter
C643		Same as C640.	RF filter
C644		Same as C640.	RF filter
C645		Same as C640.	RF filter
C646		Same as C640.	RF filter
C647		Same as C640.	RF filter
C648		Same as C640.	RF filter
C649		Same as C640.	RF filter
C650		Same as C640.	RF filter
C651		Same as C640.	RF filter
C652		Same as C640.	RF filter
C653		Same as C640.	RF filter
C654		Same as C640.	RF filter

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C655		Same as C640.	RF filter
C656		Same as C640.	RF filter
C657		Same as C640.	RF filter
C658		Same as C640.	RF filter
C659		Same as C640.	RF filter
C660		Same as C640.	RF filter
C661		Same as C640.	RF filter
C662		Same as C640.	RF filter
C663		Same as C640.	RF filter
C664		Same as C640.	RF filter
C665		Same as C640.	RF filter
C666		Same as C640.	RF filter
C667		Same as C640.	RF filter
C668		Same as C640.	RF filter
C669		Same as C640.	RF filter
C670		Same as C640.	RF filter
C671		Same as C640.	RF filter
C672		Same as C640.	RF filter
C673		Same as C640.	RF filter
C674		Same as C640.	RF filter
C675		Same as C640.	RF filter
C676		Same as C640.	RF filter
C677		Same as C640.	RF filter
C678		Same as C640.	RF filter
C679		Same as C640.	RF filter
C680		Same as C640.	RF filter
C681		Same as C640.	RF filter
C682		Same as C640.	RF filter
C683		Same as C640.	RF filter
C684		Same as C640.	RF filter
C685		Same as C640.	RF filter
C686		Same as C640.	RF filter
C687		Same as C640.	RF filter
C688		Same as C640.	RF filter
C689		Same as C640.	RF filter
E601	5	TERMINAL, STUD: stand-off hermetic seal type; 1500 v ac breakdown; solder connection; kovar terminal, glass insulator; terminal-tinned; over-all dim, 0.46 in. lg, 0.225 in. dia; mounts by solder in hole 0.151 in. dia; white or clear insulator; Hermetic Seal Products Co. part no. 1378; Bendix Radio part/dwg no. A209510.	tie point
E602	4	INSULATOR, BUSHING: laminated plastic material per MIL spec MIL-P-15047/NPG; unfinished; bushing shape, MBCA ref dwg group 9; item code no. 90 MBCA ref dwg group 9; dimensions, 0.69 in. dia by 0.586 in. dia shoulder by 0.502 in. ID by 0.09 in. lg by 0.059 in. lg to bottom of shoulder; mounts by ID; Bendix no. C293172-1.	p/o XI601
H601	3	SCREW, EXTERNALLY RELIEVED BODY: stainless steel per Fed spec QQ-S-763, Class 7, black oxide finish; head data, knurled, Section A, ref dwg group 29, slot, Section B, ref dwg group 29, dim, Section A, ref dwg group 29-A-0.62 in. dia, H-0.62 in. h; dim, externally relieved body Section H, ref dwg group 29-A-0.185 in. first dia from head, A-0.63 in. from bearing surface to end of undercut, L-0.88 in. lg; 1/4-20NC-2 thread, 0.25 in. lg; Bendix Radio part/dwg no. A241484-1.	for mounting receiver to cabinet (qty of 8 required)
H602		Not used.	
H603	3	CAP: cap for receptacle portion of spring-lock fastener; aluminum alloy; cylindrical shape; 0.687 in. lg by 0.438 in. ID; friction mounted; Camloc Fastener Corp. Code no. 2-PS3G; Bendix part/dwg no. A233654-2.	for H606
H604		Same as H603.	for H607
H605		Same as H603.	for H608

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
H606		RETAINER, FASTENER STUD: silicon bronze, cad pl plus pale iridescent iridite; 1 in. lg by 1/2 in. wd by 1/2 in. h; two mtg holes 0.106 in. dia, 0.750 in. c to c; Camloc Fastener Corp. Code no. 212-12; Bendix part/dwg no. A233481-1.	for securing cover
H607		Same as H606.	for securing cover
H608		Same as H606.	for securing cover
H609		CLAMP, ELECTRICAL: stainless steel; 1 clamp type fastening device; over-all dim, 1-1/4 in. ID closed, 3/4 in. high bracket; mounts by right angle bracket located 115 deg from hinge w/ clearance hole for no. 10 screw located on 27/32 in. radius; designed to hold electron tube base 1-1/4 in. dia; Birtcher Corp. part no. 926B; Bendix Radio part/dwg no. L74947-2.	for K605
H610		BOLT, REDUCED SHANK: stainless steel per Fed spec QQ-S-763A, hardness per QQ-M-151; black oxide; double chamfer, knurled head, 0.50 in. dia by 0.31 in. lg; 0.150 in. dia by 0.47 in. lg reduced shank; no. 10-32NFT, class 2 vit, 0.25 in. nominal lg; 0.72 in. nominal lg; Bendix no. C295233-9.	for cover
H611	4	WASHER, FLAT: annular shaped; brass; nickel-plated; round hole, 0.501 in. dia by 0.032 in. lg; 0.68 in. OD by 0.032 in. thk; Bendix no. OA17042-283. (BM-732-4 finish).	p/o XI601
H612	4	WASHER, LOCK: stainless steel type 410; passivate finish; flat internal teeth, style no. 2, ref dwg group 201; 5/8 in. OD by 1/2 in. ID by 0.022 in. material thk; Shakeproof Lock Washer Co. part no. 1724-02; Bendix no. A18040-41.	p/o XI601 (qty of 2 required)
H613	4	NUT, PLAIN, HEXAGON: brass, nickel-plated finish; machining-finished, chamfered bearing surface; 1/2-32, special class 2 fit thread; dim, 0.625 in. max width across flats, 0.093 in. nom over-all height; 30° chamber, both sides; Bendix no. HSN775B-26.	p/o XI601
I601		LAMP, INCANDESCENT: electrical rating data, 28v, 0.04 amp design current; lamp data, ref dwg group 7; midget flange base bulb data-T-1-3/4, clear finish, white light emitted 1 tungsten C-21 or C-2F filament; 5/8 in. max lg over-all; indefinite long life; any burning position; ANA spec, Standard, AN3140-327.	lock up indicator
J601 A, B		CONNECTOR, ADAPTER: 2 rd female contacts; straight type-over-all dim, 1-9/32 in. lg, 0.687 in. wide, 0.687 in. high; radio frequency connector, 50 ohms nominal impedance, constant frequency impedance characteristics; body data-cylindrical shape, brass, silver-plated finish, locking type; plastic insert; mounting data-4 holes, 0.099 in. dia, tapped w/ no. 3-56 threads, 0.090 in. deep, 1/2 in. by 1/2 in. mounting centers; weather-proof; Navy Adapter, dwg no. RE49F508C; spec no. MIL-C-3608, spec type no. UG-414/U.	A. antenna B. signal input
J602		CONNECTOR, RECEPTACLE: 37 rd male contacts; polarized; straight type; over-all dim, excluding protruding terminals, 1-13/32 in. lg, 2 in. w, 2 in. high; contacts electrically rated at 20 amp, 200 v dc, 150 v ac; body data-cylindrical shape w/ sq mtg flange, aluminum alloy, cadmium-plated finish, locking type; any acceptable insert material per spec no. MIL-C-5015; mtg data-4 holes, 0.147 in. dia, 1-9/16 in. by 1-9/16 in. mtg centers; coupling thread data-no. 1-3/4 in.-18 thread for mating w/ coupling nut; spec no. MIL-C-5015, type no. AN3102A-28-21P.	chassis connector
J603		CONNECTOR, RECEPTACLE: 32 female tubular contacts; polarized; straight type; over-all dim, excluding protruding terminals, 4.652 in. lg, 1.312 in. w, 0.890 in. high; contacts electrically rated at 5 amp; body data-rectangular shape, black molded plastic, spec no. JAN-P-14 type no. MTS-E-1; 2 mtg holes no. 8-32 thread, 0.25 in. deep, spaced 4.272 in. c to c; Cannon Electric Development Co. part no. 17968-9; Bendix Radio part/dwg no. L223234.	RF head connector
J604		CONNECTOR, RECEPTACLE: 20 female tubular contacts; polarized; straight type; over-all dim, excluding protruding terminals, 3.343 in. lg, 1.312 in. w, 0.890 in. high; contacts electrically rated at 5 amp; body data-rectangular shape, molded black plastic, spec no. JAN-P-14 type no. MTS-E-1; 2 mtg holes no. 8-32 thread, 0.25 in. deep, spaced 2.964 in. c to c; Cannon Electric Development Co. part no. 17968-23; Bendix Radio part/dwg no. L223212-7.	IF chassis connector

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R613		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 68,000 ohms, ±10%; 1/2 watt power dissipation; resistance temp characteristics F; body dim, excluding terminals, 0.406 in. lg, 0.175 in. OD; insulated; resistant to humidity; 2 wire-lead type terminals; spec no. MIL-R-11A; spec type no. RC20GF683K; JAN type no. RC20GF683K.	squelch
R614		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 100 ohms, ±10%; 1/2 w power dissipation at 70°C ambient temp; resistance temp characteristic F; body dim, ref dwg group 2; 0.406 in. lg, 0.175 in. OD; insulated; resistant to humidity; 2 wire-lead type terminals; JAN spec JAN-R-11, type no. RC20GF101K.	drop K604
R615		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 10,000 ohms, ±10%; 1/2 w rated at 70°C ambient temp; characteristic "F;" body dim.-0.406 in. lg by 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; per spec no. JAN-R-11; JAN type RC20GF103K.	RF filter
S601		SWITCH, ROTARY: sectional type, 2 sections; 2 positions, max number of switching positions possible; contact arrangement data, "nonpile-up" type, 8 moving contacts, 24 fixed contacts, 8 poles, 2 throws; non-shorting contacts; coin silver contacts; nylon base phenolic section insulation; dim, ref dwg group 8; 0.875 in. lg, 1.406 in. w, 1.593 in. high; bushing mounted; 3/8 in. dia, 32 threads per in., 0.375 in. lg; shaft data, rd type, 0.875 in. lg, 0.250 in. dia; solder lug terminals; incl lockwasher and nut; marked w/ Bendix part number; non-turn device located on 0.531 in. radius at 9 o'clock; incl rubber seal washer; Grigsby Allison Co. Inc. part no. 5232-4MLW-2; Bendix Radio part/dwg no. C218500-8.	local remote
S602		SWITCH, SENSITIVE: SPDT, electrical rating 125 v ac, 10 amp; plastic body; dim of body, excluding actuator, 1-15/16 in. lg, 11/16 in. wide, 57/64 in. deep; actuating mechanism, plunger type, dim, 55/64 in. lg, 21/64 in. lg; 0.0004 to 0.0020 in. max differential movement, 0.020 in. max pre-travel, 0.218 in. min. over-travel; 9 to 13 oz operating force; 4 oz. min release force; momentary action; one contact normally open, one contact normally closed; 3 solder lug type terminals; 15/32-32 thread mounting bushing 1/2 in. lg; Unimax part no. 20 SMXJ-1; Bendix Radio Part/dwg no. OA119536-7.	reset K604
S603		SWITCH, ROTARY: sectional type, 1 section, 2 positions, max number of switching positions possible; contact arrangement data, "nonpile-up" type, 1 moving contact, 2 fixed contacts, 1 pole, 1 throw; non-shorting contacts; coin silver contacts; nylon base phenolic section insulation; dim, ref dwg group 8; 0.781 in. lg, 1.406 in. w, 1.593 in. high; bushing mounted; 3/8 in. dia, 32 threads per in., 0.375 in. lg; shaft data, rd type, 0.875 in. lg, 0.250 in. dia; solder type terminals; incl lockwasher and nut; marked w/ Bendix dwg number; non-turn device located on 0.531 in. radius at 9 o'clock incl rubber seal washer; Grigsby-Allison Co. Inc. part no. 5230-4MLW-1; Bendix Radio part/dwg no. C218500-9.	1st digit control
S604		SWITCH, ROTARY: 1 section; 12 positions, max number of switching positions possible cont arrangement data, "nonpile-up" type, 1 pole, 10 throws; coin silver contacts and rotor blades; phenolic section per MIL-P-3115A grade PBE-P; 0.781 in. lg, 1.406 in. wide, 1.593 in. high; mounts by 0.375 in. lg, 3/8 in.-32 thread bushing; round shaft 0.875 in. lg, 0.250 in. dia; solder lug terminals; 30° detent without stops; resistant to salt spray; has waterproof mtg seal; fungus proof treated phenolic; Grigsby-Allison part no. 5231-4MLW-1; Bendix Radio part/dwg no. C218500-7.	2nd digit control
S605		Same as S604.	3rd digit control
S606		Same as S604.	4th digit control
W601	1	CABLE ASSEMBLY, RADIO FREQUENCY: cable data JAN, Radio Frequency cable, type no. RG-55/U, coaxial, 53.5 ohms characteristic impedance, 1,900 v root-mean-square max operating voltage; conductor data, single, solid, no. 20 AWG, copper wire, plain finish; dielectric data, polyethylene, 0.116 in. OD; shield data single shield, double braid, copper tinned, round shape; 0.206 in. dia, polyethylene resin jacket; assy 11 in. lg over-all; assy 9 in. lg, excluding terminations; connector, plug used, MIL spec type no. UG-88/U, two located one on each end; Bendix Radio part/dwg no. L212676-7.	interconnection

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
W601A	4	CABLE, RADIO FREQUENCY: coaxial; 53.5 ohms nom impedance, 28.5 mmf nom capacitance per ft, 1900 v rms max operating voltage, 5000 v rms max dielectric test voltage; 1 solid copper, no. 20 AWG inner conductor; polyethylene dielectric; double braid copper tinned 0.176 in. OD outer conductor; synthetic resin jacket; 0.206 in. dia over-all; spec JAN-C-17A, JAN type no. RG-55/U.	part of W601
W602		Same as W601.	interconnection
W602A		Same as W601A.	part of W602
W603		Same as W601.	interconnection
W603A		Same as W601A.	part of W603
TB601	2	TERMINAL BOARD: natural plastic board; incl 54 solder post type terminals; over-all dim, excluding terminals, spacers, and bracket, 9.90 in. lg, 3.78 in. w, 1/8 in. thk; mounts by 4 holes no. 6-32 in bracket and by 3 spacers no. 6-32 symmetrically spaced in board; various terminals identified by numbers; incl steel, cadmium-plated mtg bracket; Bendix Radio part/dwg no. L281980-1.	monitor interconnection
TB602	2	TERMINAL BOARD: natural plastic board; incl 30 solder post type terminals; over-all dim, excluding terminals and bracket 5.64 in. lg, 2.65 in. w, 1/8 in. thk; mounts by 3 holes no. 6-32 symmetrically spaced in bracket and by 2 holes 0.177 in. dia spaced 4.98 in. c to c in board; various terminals identified by numbers; incl steel, cadmium-plated mtg bracket; Bendix Radio part/dwg no. L281979-1.	IF interconnect
XI601		LIGHT, INDICATOR: supplied w 0.36 in. dia, red, transparent lens, screw type lens holder; accommodates AN3140-327 miniature flange base lamp; brass, silver-plated shell; 1.20 in. lg by 0.70 in. dia; one 0.59 in. dia mounting hole required; accommodates 0.15 in. max thick panel, horizontally mounted, lamp replaceable from front of panel; has one solder lug and one solder post terminal; Bendix part no. C208319-4.	for I601
XI601A		LENS, INDICATOR LIGHT: lens data, red, 0.365 in. dia, rd flat disc type, Rohm & Haas no. 160 plastic; over-all dim, 0.72 in. lg, 0.50 in. dia; mounted by silver-plated brass, lens holder; mounts by 3/8-32NEF-2 thread 0.19 in. lg on 0.55 in. lg, shaft; Bendix Radio part no. C206119-1.	p/o XI601
XI601B	4	LIGHT, INDICATOR: supplied w/o lens, 0.36 in. dia lens accommodated; externally threaded lens holder; accommodates AN3140-327 lamp, miniature flange base; brass, silver-plated shell; 0.975 in. lg, 0.72 in. wide; 0.069 in. high; single; 0.59 in. dia mounting hole required; accommodates 0.15 in. max thick panel; lampholder is horizontally mounted, lamp replaceable from front of panel; has one solder lug and one solder post terminal; Bendix part no. C206118-1.	p/o XI601
XV601 to XV604		Not used.	
XV605		SOCKET, ELECTRON TUBE: contact data, 8 contacts, copper-base alloy, silver-plated finish; octal; over-all dim, excluding terminals, 1-7/8 in. lg, 1-3/8 in. w, 11/16 in. high; type MFE molded thermosetting plastic body; mtg data, one-piece saddle mtg, mtg dim, 1-1/8 in. dia chassis hole required, 2 mtg holes, 0.156 in. dia, spaced 1.500 in. c to c; JAN spec, JAN-S-28A, type no. TS101P01.	for K605
701 thru 799		POWER SUPPLY: electronic and metallic type, rectifier tube used 5R4GY, full wave rectification, 26 v approximately 1 amp unregulated, 26 v approximately 4 amp max unregulated, 105 v 30 ma regulated, 200 v 200 ma regulated dc output, 26 v tapped at 6.5 v, 2 amp, unregulated ac output; 115 v, 60 cycles, single phase, 267 w normal, 320 w max ac output; 10.41 in. high, 20.5 in. deep, 21.0 in. wide over-all; filter is included; rack mounted on drawer slides, employs cap screws for securing unit into case; Bendix Radio part/dwg no. OR650017-1; AN POWER SUPPLY type no. PP-556/URD-4.	
C701		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; similar to case style no. 34 MBCA ref dwg group 1; 10 mf, +20% −10% tol; 600 v dc working, hermetically sealed metal case; 3-3/4 in. lg, 1-1/4 in. wide, 4-3/4 in. high; 2 solder lug type terminals, 3/4 in. high, located on top, 2 in. c to c; impregnated per JAN-C-25; no internal ground connection; requires two mounting brackets; spec no. JAN-C-25, type no. CP70B1DF106V.	B+ filter pl V704

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C702		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; case style no. 22, MBCA ref dwg group 1; 20,000 mmf, ±20% tolerance; 600 v dc working; black molded case per spec JAN-P-14; 1-15/32 in. wide, 49/64 in. high, 13/32 in. deep; 2 wire-lead type terminals, located one on each end; impregnate per JAN-C-91; no internal ground connection; mounts by wire-lead terminals; spec no. JAN-C-91, type no. CN43E203M.	filter pl ckt V703
C703		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; case style no. 22, MBCA ref dwg group 1; 100,000 mmf, ±20% tolerance; 600 v dc working; black molded case per spec JAN-P-14; 1-15/32 in. lg by 49/64 in. wide by 13/32 in. deep case; 2 terminals, wire-lead type, located one on each end; impregnated per JAN-C-91; no internal ground connection; mounts by wire-lead terminals; spec no. JAN-C-91, spec type no. CN43E104M.	gr coup V703
E701		SHIELD, ELECTRON TUBE: copper or brass; cylindrical shape; 0.930 in. ID, 1-3/8 in. high; locking keyway mounted; spec no. JAN-S-28A, type no. TS102U01.	for V703
E702		TERMINAL, STUD: style no. 58, MBCA ref dwg group 21; 12,000 v ac breakdown; solder connection; brass; hot tin dipped; 0.938 in. lg, 0.250 in. across flats of hex base; mounts by no. 4-40 tapped insert 0.187 in. deep; Elcon Mfg Co. part no. TT-19 general purpose binding post; Bendix Radio part no. C243900-4.	tie point
F701		FUSE, CARTRIDGE: 6 amp, 250 v; instantaneous type; ferrule type terminals; 1/4 in. lg, 1/4 in. dia; inclosed type, glass body; one time; visual indicating type; 1-1/4 in. dia over-all; Bussman Mfg Co. part no. MTH-6; Bendix Radio part/dwg no. OC221603-602.	power fuse ac line
F702		Same as F701.	power fuse ac line
F703		FUSE, CARTRIDGE: 2 amp, 250 v; instantaneous type; ferrule type terminals; 1/4 in. lg, 1/4 in. dia; inclosed type, glass body; one time visual indicating type; 1-1/4 in. lg, 1/4 in. dia over-all; Bussman Mfg Co. part no. AGC-2; Bendix Radio part no. OC221603-202.	power fuse for T702
F704		FUSE, CARTRIDGE: 0.375 amp, 250 v; time delay type, 135% for 60 min and 200% for 5 to 60 sec; ferrule type terminals; 1/4 in. lg, 1/4 in. dia; inclosed type, glass body; one time; visual indicating type, 1-1/4 in. lg, 1/4 in. dia over-all; Bussman Mfg Co. part no. MDL-3/8; Bendix Radio part/dwg no. OC221603-5371.	B+ fuse T701
F705		FUSE, CARTRIDGE: 10 amp, 25 v; time delay, 135% for 60 min and 200% for 5 to 60 sec; ferrule type terminal; 1/4 in. lg, 1/4 in. dia; inclosed type, glass body; one time; visual indicating type; 1-1/4 in. lg, 1/4 in. dia; Bussman Mfg Co. part no. MDL-10; Bendix Radio part/dwg no. OC221603-6103.	low voltage fuse for CR701
F706		Same as F703.	bridge power for L702
H701		CLAMP, ELECTRICAL: stainless steel; 1 clamp type fastening device; 1-3/8 in. ID, 3/4 in. high; mounted by 5/16 in. lg by 3/16 in. wide slot in integral mounting bracket; designed to hold electron tube base 1-3/8 in. dia; Birtcher Corp. part no. 926C; used as electron tube clamp; Bendix Radio part no. L74947-3.	for V701
H702		Same as H701.	for V704
H703		CLAMP, ELECTRICAL: stainless steel; 1 clamp type fastening device; 1-5/32 in. ID, 3/4 in. high; mounted by 5/16 in. lg by 3/16 in. wide, slot in integral mounting bracket; designed to hold electron tube base 1-5/32 in. dia; Birtcher Corp. part no. 926A; used as electron tube clamp; Bendix Radio no. L74947-1.	for V702
H704	2	BOLT, REDUCED SHANK: stainless steel; Federal spec data QQ-S-763; black oxide finish; round head, 0.62 in. lg by 0.62 in. dia; 0.185 in. dia, 0.63 in. lg reduced shank; 1/4-20, N.C.T., class 2 fit, 0.25 in. lg thread; 0.88 in. nominal length; Bendix Radio part no. A241484-1.	for mtg panel (qty of 8 required) cover for J702
H705	5	COVER, ELECTRICAL CONNECTOR: aluminum; black wrinkle finish; 0.844 in. lg, 0.719 in. wide, 0.284 in. high; one 0.385 in. dia, mounting hole through support; has neoprene pad on inside of cover; used as protective cover for telephone jack opening; "a typical mfr" Crowe Nameplate & Mfr. Co. part no. A22227 (modified); Bendix Radio part/dwg no. C243661-1.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
H706		PLATE, MOUNTING, CAPACITOR: material per JAN-C-25; finish per JAN-C-25; holds item by means of "J" shaped portion on one end of mounting, two no. 10-32 threaded spade lugs per attachment to supporting surface; for mounting capacitors; spec JAN-C-25, spec type no. CP07SC4.	mounts C701 (two required)
I701		LAMP, INCANDESCENT: 150 v, 6 w; candelabra screw base lamp; type PB 10 clear bulb; white; 1 tungsten, C-5, heavy duty filament; 1.875 in. max over-all height; any burning position; H. R. Kirland type no. S6; Bendix Radio part no. A104685.	on-off indicator
J701		CONNECTOR, RECEPTACLE: 37 male round contacts; polarized; straight type; 1-13/32 in. lg excluding protruding terminals, 2 in. wide, 2 in. high; 20 amps, 200 v dc, 150v ac; cylindrical shape w/ sq mounting flange, aluminum allow, sandblast finish; locking type; insert per spec no. MIL-C-5015; 4 holes, 0.147 in. dia on 1-9/16 in. by 1-9/16 in. mounting centers; type AN 3102A-28-21P.	disconnect for P701 on cabinet
J702		JACK, TELEPHONE: for 2 conductor plug, 0.250 in. dia, 1.218 in. lg shank; contact arrangement J-1 MBCA ref dwg group 4; 1.00 in. lg, 0.75 in. dia less terminals; 3/8 in. dia mounting hole required; mounting accessories consist of 1 hexagon nut, 1 brass, nickel-plated washer; Switchcraft, In. part no. 2J-1050A; Bendix Radio part/dwg no. C223203-1.	audio output jack
J703		SOCKET, ELECTRON TUBE: 11 contact, phosphor bronze, silver-plated; small body; round shape; 1-7/8 in. lg, 1-9/32 in. wide, 0.4841 in. deep; mica filled phenolic body; one-piece saddle type, 1-1/8 in. dia chassis hole required, two 5/32 in. dia mounting holes spaced 1-1/2 in. c to c; American Phenolic Corporation part no. 77-M1P-11TM; Bendix Radio part/dwg no. OA113017-8.	V test socket
K701		RELAY, ARMATURE: microsensitive contact, double pole, double throw, single break, AC, 250 v, 5 amp; 1 inductive winding, DC, 8000 ohms resistance, operating voltage not rated, 10 ma operating current; six terminals on contacts, two terminals on coil; 2.28 in. lg by 1.88 in. wide by 2.375 in. high max; mounts by four no. 8-32 tapped holes on 0.750 in. by 0.625 in. mounting centers in end plate; c/o electromagnetic actuator and two Micro-Switch no. BZ-R-L8 sensitive switches; Price Electric Co. part no. 5804-1; Bendix Radio part/dwg no. C218377-1.	remote AC line control
K702		RELAY, ARMATURE: microsensitive contact, double pole, double throw, single break, AC, 250 v, 5 amp; 1 inductive winding, DC, 500 ohms resistance, 20 v operating voltage, operating current not rated; six terminals on contacts, two terminals on coil; 2.14 in. lg by 1.88 in. wide by 2.33 in. high max; mounts by four no. 8-32 tapped holes on 0.750 in. by 0.625 in. mounting centers in end plate; c/o electromagnetic actuator and two Micro-Switch no. BZ-RL8 microswitches; data regarding "the mfr" Price Electric Co. part no. 5804-2; Bendix Radio part/dwg no. C218377-2.	antenna motor relay
K703		Same as K702.	antenna sense relay
L701		REACTOR: filter choke; 1 section; 5 henries over-all inductance, 250 ma dc; 80 ohms dc resistance; 2500 v rms test voltage; hermetically sealed metal case; 3.34 in. lg, 3.34 in. wide, 4.24 in. high; four no. 10-24 thd mounting studs on 2-1/4 in. by 2-1/4 in. mounting centers; 2 solder lug type terminals located on bottom; varnish impregnated and asphalt compound potted; Bendix Radio part/dwg no. L284318-1.	B+ filter pl V704
L702		REACTOR: filter choke; 1 section; 0.25 henry over-all inductance, 1.10 amp dc; 0.90 ohm dc resistance; 1500 v rms test voltage; hermeticalled sealed metal case; 4.20 in. lg, 3.52 in. wide, 4.62 in. high; mounts by four no. 1/4-20 threaded studs on 2.880 in. by 2.500 in. mounting centers; 2 solder lug type terminals located on bottom of case; varnish impregnated and asphalt compound potted; Bendix Radio part/dwg no. L284064-1.	bridge filter for CR701
O701		COVER, ELECTRICAL SWITCH: silicone rubber w/brass insert; insert is nickel plated; 0.938 in. lg by 0.750 in. w across flats of hex shaped body; mounts to a toggle switch bushing by 15/32 NS-2 internal thd bushing; used as waterproofing seal for toggle switch; Auto & Precision Mfg. Co. part no. 1030; Bendix Radio part/dwg no. C294484-1.	cover for S701

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O702	2	GASKET: seal between panel of power supply and cabinet; rubber, grade SC-620; single hole; rectangular 20.69 in. lg by 10.21 in. wd by 0.139 in. thk o/a; Bendix part/dwg no. L237409-2.	seal for front panel
R701		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 180,000 ohms total resistance, ±10% tolerance; 1/2 watt power dissipation at 70°C ambient temp; F characteristic; body dim, 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11, JAN type RC20GF184K.	filter pl V703
R702		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 470,000 ohms total resistance, ±10% tolerance; 1/2 watt power dissipation; F characteristic; body dim, 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11, type no. RC20GF474K.	pl load V703
R703		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 120,000 ohms total resistance, ±10% tolerance; 1/2 watt power dissipation; F characteristic; body dim, 0.406 in. lg by 0.175 in. dia; insulated, resistant to humidity; 2 terminals, wire-lead type; spec JAN-R-11, type no. RC20GF124K.	scr drop V703
R704		RESISTOR, FIXED, WIRE-WOUND: body style no. 12, MBCA ref dwg group 2; inductive winding; 5000 ohms, ±5% tolerance; 37 watts power rating, 275°C max continuous operating temp; 3-1/2 in. lg by 1-3/16 in. wide by 21/32 in. thick max; coating per spec JAN-R-22, resistant to moisture following thermal shock in air; 2 terminals, tab type, 13/32 in. lg by 17/64 in. wide max; stack mounting, two 0.196 dia holes 4-1/4 in. c to c; spec no. JAN-R-22, spec type no. RW220G502.	V limiter pl V702
R705		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 27 ohms, ±10% tolerance; 2 watts power dissipation; F characteristics; body dim, 0.750 in. lg by 0.370 in. dia; insulated resistant to humidity; 2 terminals wire-lead type; spec no. JAN-R-11, spec type no. RC42GF270K.	cath bias V704
R706		Same as R705.	cath bias V704
R707		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 220,000 ohms, ±10% tolerance; 1/2 watt power dissipation; F characteristic; body dim, 0.406 in. lg by 0.175 in. dia; insulated resistant to humidity; 2 terminals, wire-lead type; spec JAN-R-11, type no. RC20GF224K.	gr isolation V703
R708		RESISTOR, FIXED, COMPOSITION: body style no. 14, MBCA ref dwg group 2; 68,000 ohms, ±10% tolerance; 1 watt power dissipation; F characteristic; body dim, 0.750 in. lg by 0.280 in. dia; insulated, resistant to humidity; 2 terminals, wire-lead type; spec JAN-R-11, type no. RC30GF683K.	V div cath V704
R709		RESISTOR VARIABLE: composition element; 1 section, 25,000 ohms, ±20%; 2 watts nominal power rating; std A taper, MBCA ref dwg group 3; 3 terminals, solder lug type; inclosed metal case 1.140 in. dia by 0.50 in. deep; metal shaft, screwdriver slotted w/ 0.047 in. wide by 0.031 in. deep slot in end, 0.250 in. dia, 1/2 in. lg from mounting surface, high torque; insulated contact arm, no off position; 3/8 in. dia, 32 threads per in. 3/8 in. lg bushing with non-turn device located on 0.531 in. radius at 9 o'clock; Chicago Telephone & Supply Co. part no. Y4437; Bendix Radio part dwg no. L219625-51.	V adj gr V703
R710		Same as R708.	V div B– line
R711		RESISTOR, FIXED, COMPOSITION: similar to body style no. 110, MBCA ref dwg group 2; 500,000 ohms ±1% tolerance; 1/2 watt power dissipation; F characteristic; 0.57 in. lg by 0.19 in. dia body; insulated, resistant to moisture; 2 terminals, wire-lead type, 1.37 in. lg by 0.02 in. dia; Wilkor Products, Inc. per Bendix Drawing BRN-10; Bendix Radio part no. BRN10AB5003F.	V drop for J703
S701		SWITCH, TOGGLE: double pole, double throw; 25 amps, 125 v ac; plastic case; 1-21/64 in. lg, 49/64 in. wide, 1-1/16 in. high; bat type handle, 11/16 in. lg, excluding lgth of bushing; locking action; 6 terminals, solder lug type, located on back; single hole mounting type with 15/32 in. dia bushing, 32 threads per in., 15/32 in. lg from mounting surface; spec no. S-23, spec type no. ST52P.	local-remote power switch

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
S702		SWITCH, SENSITIVE: SPDT; 460 v ac 10 amps, 125 v dc 0.5 amps; molded phenolic body per MIL-P-14 type MFE; 1.938 in. lg, 0.83 in. wide, 0.688 in. high excluding actuator; leaf type actuator; 0.188 in. wide actuating arm, 0.030 in. max differential movement, 0.155 in. max pre-travel, 0.063 in. max over-travel; 3 oz max operating force; 0.5 oz min release force; momentary action, two contacts, one contact normally closed; 3 solder lug type terminals; one 0.140 in. dia mounting hole and one 0.140 in. lg by 0.152 in. wide rounded slot 1.000 in. c to c; resistant to vibration, humidity and salt spray; Microswitch Corp. part no. BZ-RL8; Bendix no. C218637-1.	AC power p/o K701
S703		Same as S702	AC power p/o K701
S704		Same as S702.	antenna power p/o K702
S705		Same as S702.	antenna power p/o K702
S706		Same as S702.	antenna sense p/o K703
S707		Same as S702.	antenna sense p/o K703
T701		TRANSFORMER, POWER, STEP-DOWN AND STEP-UP: hermetically sealed, metal case; 115 v ac, 50-60 cycles, single phase input; 3 output windings, no. 1 secondary 860 v, no. 2 secondary 5 v, no. 3 secondary 6.3 v, no. 1 secondary 0.250 amp dc, no. 2 secondary 2 amp, no. 3 secondary 3 amp, no. 1 secondary center tapped; primary, 1500 v rms test voltage, no. 1 and 2 secondaries 3000 v rms test voltage, no. 3 secondary, 2000 v rms test voltage; varnish impregnated and black asphalt compound potted; 5.08 in. lg by 4.32 in. wide by 5.40 in. high; 9 terminals, solder lug type, located on bottom; four no. 5/16-18 threaded mounting studs on 3.00 in. by 3.760 in. mounting centers, MBCA ref dwg group 12; internal shielding; Bendix Radio part/dwg no. N284319-1.	B+ rectifier supply
T702		TRANSFORMER, POWER, STEP-DOWN: hermetically sealed, metal case; 115 v ac, 50-60 cycles, single phase input; 1 output winding, 26.5 v, 2.65 amp, tapped at 6.5 v; 1500 v rms test voltage; varnish impregnated and black asphalt compound potted; dim, 3.78 in. lg by 3.66 in. wide by 4.62 in. high; 5 terminals, solder lug type, located on bottom; four no. 1/4-20 thread mounting studs on 2.50 in. by 2.50 in. mounting centers, MBCA ref dwg group 12; internal shield; Bendix Radio part/dwg no. N284320-1.	tube heater supply
T703		TRANSFORMER, POWER, STEP-DOWN: hermetically sealed, metal case; 115 v ac, 50-60 cycles, single phase input, 1 output winding, 40 v, 1.10 amp DC continuous, secondary tapped at 38.5 v and 37 v; 1500 v rms test voltage; varnish impregnated and black asphalt compound potted; 4.28 in. lg by 4.24 in. wide by 5.38 in. high; 6 terminals, solder lug type, located on bottom; four no. 1/4 in.-20 thread mounting studs on 3.00 in. by 3.00 in. mounting centers, MBCA ref dwg group 12; internal shield; Bendix Radio part/dwg no. L284063-1.	low voltage DC supply
V701		ELECTRON TUBE: double diode; glass, Radio Manufacturers Association envelope T-14; 5 terminations, pin type, located on bottom; full wave high vacuum rectifier, ruggedized; spec no. MIL-E-1B, spec type no. MIL-5R4WGY.	B supply rect
V702		ELECTRON TUBE: diode; glass, Radio Manufacturers Association envelope ST-12; 6 terminations, pin type, located on bottom; voltage regulator; spec no. MIL-E-1B, spec type no. MIL-OC3W.	105 v supply reg
V703		ELECTRON TUBE: pentode; glass, Radio Manufacturers Association envelope T-5-1/2; 7 terminations, pin type, located on bottom; beam power amplifier; spec no. MIL-E-1B, spec type no. MIL-6AS6.	reg-amplr
V704		ELECTRON TUBE: double triode; glass, Radio Manufacturers Association envelope ST-16; 8 terminations, pin type, located on bottom; amplifier; spec no. MIL-E-1B, spec type no. MIL-6AS7G.	200 v reg

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
CR701		RECTIFIER, METALLIC: selenium; designed for single phase full wave circuit; 45.8 v ac, single phase input; 36 v dc at +35°C or 28 v dc at +65°C, 5.2 amp at +35°C or 4.6 amp at +65°C, full wave rectified output; round plates w/ trapezoidal mounting bracket, 6.375 in. lg by 4.375 in. wide by 5.187 in. high; four 0.5 in. lg by 0.188 in. wide slots on 5.625 in lg by 3.0 in. wide mounting centers; 4 terminals, solder lug type, radially located; moisture proof coating to withstand temp changes from −40°C to +85°C; Fansteel Metallurgical Corp. part no. BN1010 Coating K; Bendix Radio part/dwg no. L222921-1.	low V rect
TB701		TERMINAL BOARD: molded black plastic; includes terminals less screws; barrier type; 1-3/4 in. lg by 7/8 in. wide by 13/32 in. high; four 0.160 in. dia holes on 1-1/2 in. by 5/16 in. mounting centers; H. B. Jones part no. 3-140, less screws; Bendix Radio part no. C60854-3.	terminals for T703
TB702	2	TERMINAL BOARD: natural plastic board, MIL-P-15047(NPG); includes 18 terminals, solder post type; w/o barriers; 4.90 in. lg by 2.52 in. wide by 0.81 in. thick; mounts by 4 spacing posts w/ no. 6-32 thread tapped holes, posts on 4-3/8 in. by 2.00 in. mounting centers; board stencilled R701, R702, R703, R705, R706, R707, R708, R710, C702, and C703; Bendix Radio part/dwg no. L281497-1.	component mounting
XF701		FUSEHOLDER: extractor post type; max electrical rating of holder is 250 v at 15 amp; accommodates one cartridge type fuse, over-all dim of fuse-1-1/4 in. lg, 1/4 in. dia; phenolic body; contact data, nickel-plated brass contacts, 1 clip type, 1 knife edge type; over-all dim, 2.22 in. lg, 0.72 in. dia; 2 solder lug type terminals; single hole mounting, 1/2 in. dia thread body for mounting in panel; Littlefuse Inc. catalog no. 342001; Bendix Radio part no. A30003.	for F701
XF702		Same as XF701.	for F702
XF703		Same as XF701.	for F703
XF704		Same as XF701.	for F704
XF705		Same as XF701.	for F705
XF706		Same as XF701.	for F706
XI701	1	LIGHT, INDICATOR: lens data; supplied w/ 1 in. dia, red, smooth frosted lens in screw type lens holder; accommodates S-6, candelabra screw base lamp; 125 v, 6 w; steel shell, black nickel finish; 2-15/16 in. lg by 1-1/8 in. dia; 1 mounting hole required, 1 in. dia; accommodates up to 25/32 in. thick panel; horizontally mounted, lamp replaceable from front of panel; 2 terminals, screw type, located on back, both insulated from shell; Dial Light Co. part no. 51101-111-XP1; Bendix Radio part/dwg no. C62465-21.	for I701 c/o XI701A, XI701B
XI701A		LENS, INDICATOR LIGHT: red lens, 1 in. dia, convex shape, glass, smooth face, frosted; 0.750 in. lg, 1.125 in. dia; holder mounted, brass, black nickel-plated; threaded type mounting 1-27 internal thread 0.128 in. deep; Dialight Company of America part no. 51-111; Bendix no. C237982-1.	lens for XI701
XI701B	3	BODY LIGHT, INDICATOR: supplied w/o lens, accommodates 1 in. dia lens, has 1-27 threaded portion for mounting lens; accommodates no. 6 lamp, candelabra screw base; 115 v to 125 v, 6 w; brass shell black nickel finish, inclosed type; 2.437 in. lg, 1.312 in. across flats of mounting nut; 1 in. dia mounting hole required; 25/32 in. max panel thickness; horizontally mounted, lamp replaced from front of panel; 2 terminals, screw type, located on end opposite lamp; Dialight Company of America part no. 51101-1; Bendix no. C287236-1.	body for XI701
XV701		SOCKET, ELECTRON TUBE: contact data; 8 copper contacts, silver-plated; octal; round; 1-7/8 in. lg by 1-3/8 in. wide by 11/16 in. high; molded thermosetting plastic body; one-piece saddle mounting, 1-7/64 in. dia chassis hole required, 2 mounting holes, 0.156 in. dia, spaced 1.500 in. c to c; spec no. JAN-S-28A, spec type no. TS101P01.	for V701
XV702		Same as XV701.	for V702

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
XV703		SOCKET, ELECTRON TUBE: 7 copper contacts, silver-plated; miniature; round; 1-1/8 in. lg by 0.900 in. wide by 25/32 in. high; ceramic body; one-piece saddle mounting, 5/8 in. chassis hole required, 2 mounting holes, 1/8 in. dia, 7/8 in. c to c; spec no. JAN-S-28A, spec type no. TS102C01.	for V703
XV704		Same as XV701.	for V704
801 thru 899		CABINET: AN CABINET CY-890/URD-4; shock-mounted cabinet to house Radio Receiver R-353/UR D-4 and Power Supply PP-556/URD-4; aluminum, haze gray painted finish; empty; 23.5 in. h by 21.75 in. wd by 22.95 in. d; two compartments w/ drawer slides, one interlock sw and one blower per ea compartment, 1 air exhaust inside, 1 thermostatic sw for blower control; has 6 shockmounts, 4 on bottom and 2 on rear; has 4 eyebolts for lifting; Bendix part/dwg no. OR650036-1, Navy spec MIL-D-16252.	
B801		FAN: propeller blade; elec motor oper; 4 metal blades, 4 in. dia; non-portable; unguarded; motor 1/300 hp, 3000 rmp, 115 v 60 cycle, single phase; 3.566 in. lg by 4 in. dia approx o/a; 190 cfm at rated speed; single speed; direct drive; three no. 6-32 in. thd by 0.156 in. deep mtg holes equally spaced on 1.281 in. radius located on shaft end; Eastern Air Devices part no. F4AZV-C; Bendix part/dwg no. L222908-3.	ventilates R-353/URD-4
B802		Same as B801.	ventilates PP-556/URD-4
B801A	4	BLADE, FAN: aluminum, anodized finish; four blade type; 0.75 in. lg by 4.00 in. dia; mts by 0.25 in. ID of hub to motor shaft, hub has two no. 10-32 NF thd holes for set screws (not supplied); Eastern Air Devices Inc. part no. 2234-4C-2; Bendix Radio part no. C233879-1.	p/o B801
B801B	4	MOTOR, ALTERNATING CURRENT: capacitor-induction type; 115 v, 60 cycles, single phase, 14 volt-amperes; 1/300 hp, single take off shaft, 3000 rpm, cw rotation; closed frame type; −40°C to +65°C ambient temperature; shaft flatted two adjacent portions; motor dimensional data 2.874 in. lg excluding shaft by 1.750 in. dia, 0.2500 in. dia shaft which extends 0.688 in. from frame; 3 solder lug type terminals; fixed mounting base; three no. 6-32NC-2 mounting holes spaced 120° apart on. 1.281 in. dia at shaft end; requires 1 mf 330 v starting capacitor, not supplied; resistance to humidity and salt spray; Eastern Air Devices, Inc. part no. J49-CC; Bendix Radio part/dwg no. L221121-1.	p/o B801
B802A		Same as B801A.	p/o B802
B802B		Same as B801B.	p/o B802
C801		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 1 uf +20% −10%; 600 v dc working; metal, hermetically sealed casing; case dim, 2 in. w, 1-3/4 in. deep, 7/8 in. high; 2 solder lug type terminals, 3/4 in. high, located on top, spaced 1-1/16 in. c to c; impregnated per speed no. JAN-C-25; no internal ground connections; 2 integral mounting ears ea w/ hole 3/16 in. dia for mounting; spec no. JAN-C-25, type no. CP54B1DF105V.	motor capacitor for B801
C802		Same as C801.	motor capacitor for B802
C803		Same as C801.	sense relay bypass
C804		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf ±20%; 500 v dc working; temp coefficient variable; uninsulated body; case dim, 5/16 in. w, 5/8 in. lg; 2 axial hook type terminals, 1 mtg bushing terminal, 1 term 0.24 in. lg, 1 term 0.27 in. lg; feed-through method of mtg no. 12-28 thread for mtg; Erie Resistor Corp. type no. 357-Hi-K-12; Bendix Radio part/dwg no. C220077-1.	AC line filter
C805		Same as C804.	AC line filter
E801	4	TERMINAL BOARD: molded phenolic; board w/o terminals, accommodates 20 terminals barrier type; over-all dim, excluding terminals, 12-5/16 in. lg, 11/16 in. w, 9/16 in. high; 21 mtg holes 0.115 in. dia, countersunk 82° by 3/16 in., spaced 19/32 in. c to c; Olympic Plastics Co. part no. OP-100-20; Bendix Radio part/dwg no. A100595-20.	connecting strip

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E801A		TERMINAL BOARD: molded phenolic board; includes 20 screw type terminals; barrier type; 12.312 in. lg by 0.688 in. wide by 0.562 in. high; twenty-one 0.115 in. dia mounting holes countersunk 82° by 3/16 in. and spaced 0.594 in. c to c; Olympic Plastics part no. OP-100-20 w/terminals; Bendix Radio part no. C294284-20.	replacement for E801
E802		Same as E801.	connecting strip
E802A		Same as E801A.	replacement for E802
E803		Same as E801.	connecting strip
E803A		Same as E801A.	replacement for E803
H801	3	SLIDE, drawer: c/o three plates, one slide, one latch fastener; rectangular shape; 20 in. lg by 6.835 in. wd by 2 in. h o/a; mounts by twelve 0.213 in. dia holes irregularly spaced in two rows of six ea; Bendix Radio part/dwg no. L280029-1.	R.H. slide for PP-556/URD-4
H802	3	SLIDE, DRAWER: c/o three plates, one slide, one latch fastener; rectangular shape; 20 in. lg by 6.835 in. wd by 2.0 in. h o/a; mounts by twelve 0.213 in. dia holes irregularly spaced in two rows of six ea; Bendix Radio part/dwg no. L280030-1.	L.H. slide for PP-556/URD-4
H803	3	SLIDE, DRAWER: c/o two plates, one slide, one latch fastener; rectangular shape; 20 in. lg by 6.835 in. wd by 2.0 in. h o/a; mounts by twelve 0.213 in. dia holes irregularly spaced in two rows of six ea; Bendix Radio part/dwg no. L280031-1.	L.H. slide
H804	3	SLIDE, DRAWER: c/o two plates, one slide, one latch fastener; rectangular shape; 20 in. lg by 6.835 in. wd by 2.0 in. h o/a; mounts by twelve 0.213 in. dia holes irregularly spaced in two rows of six ea; Bendix Radio part/dwg no. L280032-1.	R.H. slide for R-353/URD-4
H805		CLAMP, ELECTRICAL: aluminum alloy; melted petrolatum dipped; 1 screw type fastening device; 1-5/16 in. lg by 1-7/8 in. dia over-all; mts by 1-7/16-18NEF-2B thd to connector shell; designed to hold material 15/16 in. dia; used as cable adapter; AN Adapter dwg no. AN3057-16.	for P702
H806		Same as H805.	for P602
H807		CLAMP, ELECTRICAL: aluminum alloy; 2 screw type fastening device; 1-1/8 in. lg by 1-7/16 in. dia over-all; mounts to connector plug by 1-20 internal thread; designed to hole cable 5/8 in. nominal dia; petrolatum dip; used as cable clamp; AN Clamp type no. AN3057-10.	for cable
H808		Same as H807.	for cable
J801		CONNECTOR, ADAPTER: 2 rd female contacts, 1 on each end; straight type; over-all dim, 2.202 in. lg, 1-9/16 in. w, 1-9/16 in. high, cylindrical shape, brass, silver-plated finish, locking type body; polyethylene insert; 4 holes, 0.196 in. dia, 1-3/16 in. by 1-3/16 in. c to c for mtg; 1-1/4 in.-18 coupling thread for mating w/ coupling nut on 1 end, 5/8 in.-24 coupling thread for mating w/ coupling nut other end; weatherproof; Navy dwg no. RE49F388, type no. UG-271/U.	adapter for RF antenna line
L801	2	COIL, RADIO FREQUENCY: 0.68 mh at 2.5 mc, 0.15 ohm max; 10 turns, no. 18 enameled copper conductor, 1 single layer winding, untapped, unshielded, phenolic form, 29/64 in. dia by 13/32 in. lg coil, 1.00 in. lg by 3/8 in. dia coil form; 2 terminals, rigid wire type, located axially; terminal mounting; coated with unthinned bakelite varnish; Hi-Q-Division, Aerovox Corp. part no. RFC-137; Bendix Radio part/dwg no. OC215350-37.	AC line filter
L802		Same as L801.	AC line filter
O801		CLEANER ELEMENT, AIR: aluminum media; reusable type; rectangular shape, 5 in. lg by 7 in. h by 1 in. thk o/a w/ four no. 4-40 thd inserts on 4.38 in. by 6.38 in. ctr ea side for mtg; Air Maze part no. 120025; Bendix part/dwg no. C237910-1.	air filter on back of CY-890/URD-4
O802		Same as O801.	air filter on back of CY-890/URD-4

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O803		FILTER, AIR CONDITIONING: permanent type; aluminum filtering medium, aluminum frame; 99 CFM capacity; over-all dim, 18.60 in. w, 3.75 in. high, 0.50 in. thk; Air Maze Corp. part no. 13793; Bendix Radio part/dwg no. C233813-5.	air filter on side of CY-890/URD-4
O804		MOUNT, VIBRATION: sq mtg; 85-240 lb load rating; 3 in. lg by 3 in. w by 1-1/2 in. high; rubber cushion; steel, cadmium-plated sleeve w/ 3/8 in.-16 bolt hole; steel, cadmium-plated holder; 4 mtg holes, 0.266 in. dia on 2-1/2 in. by 2-1/2 in. mtg centers; Barry Corp. part no. C2090-T6; Bendix Radio part/dwg no. C240591-3.	mounts CY-890/URD-4
O805		Same as O804.	mounts CY-890/URD-4
O806		Same as O804.	mounts CY-890/URD-4
O807		Same as O804.	mounts CY-890/URD-4
O808		Same as O804.	mounts CY-890/URD-4
O809		Same as O804.	mounts CY-890/URD-4
O810	2	GASKET: for coaxial connector; neoprene 30-40 durometer; 5 holes total, clearance hole 1.18 in. dia, 4 mtg holes 0.189 in. dia on 1.187 in. by 1.187 in. mtg centers; sq, 1.56 in. lg by 1.56 in. w by 0.031 in. thk; corners rounded on 0.18 in. radius; Bendix Radio part/dwg no. C235324-8.	used with J801A, B
O811	2	GASKET: for sealing louver plate; synthetic rubber; 13 holes; rectangular shape, 8.32 in. lg by 6.32 in. wd by 0.032 in. thk; Bendix part/dwg no. L237198-1.	seal for cover
O812	2	GASKET: for case exhaust louvre; synthetic rubber; 37 holes; rectangular shape, 19.80 in. lg by 4.96 in. wide by 0.032 in. thk; Bendix Radio part/dwg no. L237454-1.	seal for cover
O813	2	GASKET: used as seal for cabinet; neoprene, 30-40 durometer; 11 holes; rectangular shape, 5.68 in. lg by 3.31 in. wd by 0.032 in. thk o/a; Bendix part/dwg no. L237197-1.	seal for cover
P601A		CONNECTOR, PLUG: 1 male, rd contact; straight type; over-all dim, approx 1-1/64 in. lg, approx 9/16 in. dia; contacts electrically rated at 500 v peak; rf connector, 50 ohms nom impedance, non-constant frequency impedance characteristic; cylindrical shape, brass, silver-plated finish, locking type body; teflon insert; 0.217 in. dia max cable opening; approx 9/16 in. OD female bayonet coupling sleeve; weatherproof; MIL-C-3608, type no. UG-88/U.	antenna signal
P602		CONNECTOR, PLUG: 37 female, rd contacts; polarized; angle type; 90° angle; over-all dim, 3-13/32 in. lg, 2 in. w, 2-23/32 in. h; contacts electrically rated at 20 amp, 200 v dc, 150 v ac; cylindrical aluminum alloy body, cadmium plated finish, locking type, split shell; any acceptable insert material per spec no. MIL-C-5015; 1-31/32 in. OD coupling nut w/ 1-3/4 in.-18 coupling nut thread; 1-7/16 in.-18 conduit hub thread; MIL-C-5015, type no. AN3108B-28-21S.	RECEIVER frame disconnect
P702		CONNECTOR, PLUG: 37 female, rd contacts; polarized; straight type; over-all dim, 2-5/16 in. lg, 1-31/32 in. dia; contacts electrically rated at 20 amp, 200 v dc, 150 v ac; cylindrical shape, aluminum alloy, cadmium-plated finish, locking type body; any acceptable insert material per spec no. MIL-C-5015; 1-31/32 in. OD coupling nut w/ 1-3/4 in.-18 coupling nut thread, 1-7/16 in.-18 conduit hub thread; MIL-C-5015, type no. AN3106A-28-21S.	POWER SUPPLY disconnect
P801A		CONNECTOR, PLUG: 1 outer female rd contact; straight type: over-all dim, approx 3-5/16 in. lg, 1-5/8 in. dia; contacts electrically rated at 5000 v peak; rf connector, 50 ohms nom impedance; cylindrical shape, brass, silver-plated finish, locking type body; cable dielectric utilized as insert; 1 in. dia max cable opening; 1-1/2 in. w hex coupling nut w/ 1-1/4 in.-18 coupling nut thread; weatherproof; center conductor of cable utilized as male center contact; MIL-C-3650, type no. UG-154/U.	antenna signal

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
P801B		CONNECTOR, PLUG: 1 male, rd contact; straight type; over-all dim, 1-3/4 in. lg, 13/16 in. dia; contacts electrically rated at 500 v peak; rf connector, 50 ohms nom impedance; cylindrical shape, brass, silver-plated finish; locking type body; polystyrene insulator; 0.212 in. dia max cable opening; 13/16 in. OD coupling nut w/ 5/8 in.-24 coupling nut thread; weatherproof; Navy dwg no. RE49F569, type no. UG-536/U.	antenna signal
S801		SWITCH, PUSH-PULL: single-pole, double throw; rated at 10 amps ac, 1/2 or 1/4 amp dc, 125 or 250 v ac, 125 v dc or 250 v dc; momentary action on push, locking action on pull, normally closed (on push action), locks by tension (on pull action); plastic body; over-all dim, including terminals and mounting bracket, 1/2 in. wide, 1.81 in. high, 1.88 in. deep; round metal external actuator, 1-7/8 in. lg; 3 solder lug type terminals, located 2 on the back and one on the bottom of switch case; mtd by two no. 6-32 thread tapped holes on mounting bracket 1-1/2 in. center to center; fungus resistant plunger and switch case; Microswitch part no. 3AC3; Bendix Radio part/dwg no. C218282-1.	interlock for R-353/URD-4
S802		Same as S801.	interlock for PP-556/URD-4 BLOWER
S803		SWITCH, THERMOSTATIC: SPST: steel case; over-all dim, including terminals, 2.562 in. dia, 0.938 in. deep; 65°C ±5°F max operating temp, 20°F temp differential; rated at 12 amp, 120 v ac, 3 screw type terminals, located on front; four 0.156 in. dia mounting holes spaced 90° apart on 2.187 in. dia; Spencer Thermostat Co. part no. C4370-3; Bendix Radio part/dwg no. C218455-1.	thermostat
TB801	1	TERMINAL BOARD ASSEMBLY: 3 terminal boards, molded phenolic, 20 terminals ea board, terminals incl, Olympic Plastics Co. part no. OP-100-20 w/ terminals per Bendix Radio dwg no. L280070-1; over-all dim, 13.98 in. lg, 5.31 in. w, 0.87 in. high; 6 no. 6-32 mtg holes in spacing posts on 4.81 in. by 5.99 in. mtg centers; terminals identified 1 through 60; Bendix Radio part/dwg no. L280070-1.	c/o mtg board, E801, E802 and E803
TB802	3	TERMINAL BOARD: natural plastic MIL-P-15047/NPG; 2 terminals included, screw and tab type; w/o barriers; over-all dim, 2.07 in. lg, 0.75 in. wide, 0.75 in. thick; two 0.161 in. dia mounting holes spaced 1.688 in. c to c; Bendix Radio part/dwg no. C281248-1.	connecting strip for AC line
W801		CABLE ASSEMBLY, RADIO FREQUENCY: c/o RG-55/U coaxial cable, 53.5 ohms nom impedance, solid copper no. 20 AWG conductor; polyethylene dielectric; has 1 double braid shield; polyethylene covering; assembly is 5 ft lg over-all, approx 4 ft 10 in. lg less terminations, 0.206 in. max dia over-all cross section; has 1 AN connector type no. UG-88/U one end, has 1 AN connector type no. UG-536/U other end; Bendix Radio part/dwg no. L212698-21.	cabinet cable
W802		Part of cabinet wiring. Listed for reference only.	
W803		Part of cabinet wiring. Listed for reference only.	
901 thru 1099	6	INDICATOR, RADIO COMPASS: 360 deg azimuth indicator; 5 in. cathode ray tube; input signal data, reference signal 2 phase, 15 cycle, 8 v per phase peak video signal 4 v, peak video signal in negative phase; employs JAN5CP12 cathode ray tube; indicator calibrated 0 to 360 deg; operating power requirements, 115 v ac, 60 cycles, single phase, 133 watts; principal controls consists of-brilliance control, focusing control, horizontal, vertical, circle diameter, radio frequency gain control, audio gain control, dimmer control for lights, and channel selector; over-all dim, 23.8 in. lg, 20.20 in. wide, 11.20 in. high; mounts in CABINET ELECTRICAL EQUIPMENT CY-1304/URD-4, held by eight 1/4 in.-20 thd captive screws; Bendix Radio part/dwg no. OR650037-1; Navy spec MIL-D-16252.	
C901		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1500 uuf ±20%; 500 v dc working; temp coefficient variable; body insulated, with molded phenolic jacket; case dim, ref dwg group 1-A-0.250 in. dia, G-approx 0.812 in. lg; 2 wire-lead type terminals; terminal-mounted; Erie Resistor Corp. part no. GP2L1500 ±300 MMF; Bendix Radio part/dwg no. C65524-152.	pl coup V901

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C902 A, B, C		CAPACITOR, FIXED, PAPER DIELECTRIC: 3 section; 100,000 uuf ea section +20% −10%; 600 v dc working; hermetically sealed metal case; case dim, ref dwg group 1-A-1-3/4 in. w, B-41/64 in. deep, C-1-1/2 in. high; 3 solder lug type terminals, located on bottom; impregnated per spec no. JAN-C-25; ea section internally grounded; channel mounted by 2 slots 0.156 in. w, spaced 2-1/8 in. c to c; spec no. JAN-C-25; type no. CP69B5EF104V.	A. pl byp V901 B. not used-spare C. scr byp V908
C903		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 6000 uuf ±20%; working voltage −200 v dc; designed for rf application, rated 0.20 amp at 1 to 10 mc, at 400°C ambient temp; molded case per spec no. JAN-P-14; case dim, ref dwg group 1-1-51/64 in. w, B-7/32 in. deep, C-15/32 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted; spec no. JAN-C-91, type no. CN20A602M.	coup pl V901
C904		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf ±20%; 500 v dc working; temp coefficient variable; body insulation, molded phenolic jacket; case dim, ref dwg group 1-A-0.250 in. dia, G-approx 0.812 in. lg; 2 wire-lead type terminals; terminal-mounted; Erie Resistor Corp. part no. GP2L1000 ±200 MMF; Bendix Radio part/dwg no. C65524-102.	feedback coup V903
C905		CAPACITOR, VARIABLE, AIR DIELECTRIC: plate meshing type; 1 section; 50 mmf max, 3.9 mmf min; straight line capacity tuning characteristic; peak voltage not rated; over-all dim, excluding shaft and bushing, 1.155 in. lg, 0.937 in. wide, 1.218 in. high; bushing dim, 0.157 in. lg bushing, 0.156 in. lg, 0.250 in. across hex shaped shaft; adjustment data, screwdriver or hex wrench adjustment, 360° rotation in either direction w/ no stops, 180° from min to max capacity; insulated ceramic base; 3 solder lug type terminals; mounts by two no. 4-40 tapped inserts spaced 0.656 in. c to c and 0.484 in. from top of ceramic mounting plate; plate data, 14 plates, per JAN-C-92, nickel-plated finish; Hammarland Mfr Co. Inc. part no. APC-50; Bendix Radio part/dwg no. C219079-1.	trimmer for L901
C906		CAPACITOR, FIXED, MICA DIELECTRIC: 100 uuf ±2%; 500 v dc working; −20 to +100 parts per million per deg C temp coefficient; molded low-loss bakelite casing; case dim, ref dwg group 1-A-1/2 in. w, B-11/64 in. deep, C-9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co. part no. CM15E101G; Bendix Radio part/dwg no. OC220129-63.	padder for L901
C907 A, B, C		Same as C902.	A. pl byp V903 B. pl byp V903 C. cath byp V903
C908		Same as C904.	gr coup V904
C909		Same as C904.	cath byp V904
C910 A, B, C		Same as C902.	A. scr byp V904 B. pl byp V904 C. pl byp V905
C911		Same as C906.	padder L902
C912		Same as C905.	trimmer L902
C913		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 470 uuf ±20%; 500 v dc working; temp coefficient variable; body insulation, molded phenolic jacket; case dim, ref dwg group 1-A-0.250 in. dia, G-0.562 in. lg; 2 wire-lead type terminals; terminal-mounted; Erie Resistor Corp. part no. GP2K470 ±94 MMF; Bendix Radio part/dwg no. C65524-471.	gr comp V905
C914		Same as C913.	gr coup V905
C915		Same as C901.	gr byp V906
C916		Same as C901.	gr byp V907
C917		Same as C901.	gr byp V908
C918		Same as C901.	gr byp V909
C919		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1 section; rated 500 VDCW, 47 mmf, ±5%; 750 mmf per mf deg C neg temp coef, +120-350 mmf per mf per degree C tolerance; style no. 25K, ref dwg group 1; insulated body, 0.250 in. dia by 0.562 in. lg; has 2 insulated wire lead type terminals; terminal mounted; spec JAN-C-20A type no. CC21UJ470J.	suppressor gr coup V906

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C920		Same as C919.	suppressor gr coup V907
C921		Same as C919.	suppressor gr coup V908
C922		Same as C919.	suppressor gr coup V909
C923		CAPACITOR, FIXED, CERAMIC DIELECTRIC: case style no. 2, MBCA ref dwg group 1; 68 mmf ±20%; 500 v dc working at 25°C, 400 v dc working at 85°C; temp coefficient data, 330 mmf per mf per degree C negative, ±500 mmf tolerance; body insulation, phenolic jacket; dim of case, 0.562 in. lg, 0.250 in. dia; 2 wire-lead type terminals; terminal-mounted; Erie Resistor Corp. type no. GP1K; Bendix Radio part/dwg no. C65524-680.	parasitic suppressor
C924		Same as C923.	parasitic suppressor
C925		Same as C923.	parasitic suppressor
C926		Same as C923.	parasitic parasitic suppressor
C927 A, B, C		Same as C902.	A. cath byp B. cath byp C. pl byp V906
C928 A, B, C		Same as C902.	A. cath byp V908 B. cath byp V909 C. pl byp V908
C929		Same as C923.	parasitic suppressor V906
C930		Same as C923.	parasitic suppressor V907
C931		Same as C923.	parasitic suppressor V908
C932		Same as C923.	parasitic suppressor V909
C933		Same as C906.	padder L903
C934		Same as C905.	trimmer L903
C935		Same as C906.	padder L904
C936		Same as C905.	trimmer for L904
C937		Same as C906.	padder ofr L905
C938		Same as C905.	trimmer for L905
C939		Same as C906.	padder for L906
C940		Same as C905.	trimmer for L906
C941		Same as C919.	pl coup V910
C942		Same as C919.	pl coup V910
C943		Same as C919.	pl coup V911
C944		Same as C919.	pl coup V911
C945		Same as C919.	load byp V910
C946		Same as C919.	cath byp V910
C947		Same as C919.	load byp V910
C948		Same as C919.	load byp V911
C949		Same as C919.	cath byp V911
C950		Same as C919.	load byp V911
C951		CAPACITOR, FIXED, CERAMIC DIELECTRIC: case style no. 4, MBCA ref dwg group 1; 5 mmf ±1 mmf; 500 v dc working; insulated ceramic body; case dim, 5/8 in. lg, 5/16 across flats of hex; terminal data-2, hook shaped rigid wire, approx 1/4 in. lg; mounting data, feed-thru method of mounting, combination terminals and no. 12-28 thread mounting stud 11/32 in. lg; Erie Resistor Corp. type no. 357; Bendix Radio part/dwg no. C220077-2.	pl byp V914
C952		Same as C951.	pl byp V914
C953		Same as C951.	pl byp V915
C954		Same as C951.	pl byp V915

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C955		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 1 uf ± 10%; 100 v dc working; metal hermetically sealed case; case dim, ref dwg group 1-A-1-13/16 in. w, B-1 in. deep, C-7/8 in. high; 2 solder lug type terminals, located on sides; impregnated per spec no. JAN-C-25; no internal ground connections; mtg data, 2 integral mtg ears, ea w/ hole 3/16 in. dia, spaced 2-1/8 in. c to c; spec no. JAN-C-25, type no. CP53B1EB105K.	horiz phase shift
C956		Same as C955.	vert phase shift
C957		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 4.0 uf +20% −10%; 600 v dc working; hermetically sealed metal case; case dim, ref dwg group 1-A-1-1/2 in. dia, G-4-1/2 in. lg; 2 solder lug type terminal, located on bottom; impregnated per spec no. JAN-C-25; no internal ground connections; mounts by 3/4 in.-16 bushing; spec no. JAN-C-25, type no. CP41B1DF405V.	B+ filter
C958		Same as C957.	B+ filter
C959		Same as C957.	neg supply filter
C960		Same as C957.	neg supply filter
C961		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 100,000 uuf ± 20%; 400 v dc working; designed for rf application, rated 1 amp from 1 to 10 mc, at 40°C ambient temp; black molded case per spec JAN-P-14; case dim, 1-15/32 in. w, 13/32 in. deep, 49/64 in. high; 2 wire-lead type terminals, located axially; impregnated per spec no. JAN-C-91; no internal ground connection; terminal-mounted; spec no. JAN-C-91; type no. CN43E104M.	neg supply bypass
C962 A. B. C		CAPACITOR, FIXED, PAPER DIELECTRIC: 3 section; 20,000 uuf ea section, +20% −10%; 1,000 v dc working; hermetically sealed metal case; case dim, ref dwg group 1-A-1-3/4 in. w, B-41/64 in. deep, C-1-1/16 in. high; 3 solder lug type terminals, located on bottom; impregnated per spec no. JAN-C-25; all sections internally grounded; mtg data, channel mounted by 2 slots 0.156 in. w, spaced 2-1/8 in. c to c; spec no. JAN-C-25, type no. CP69B5EG203V.	A. pl filter V923 B. pl filter V923 C. reg filter V924
C963		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 100,000 uuf +20% −10% working voltage, 600 v dc, hermetically sealed metal case; case dim, ref dwg group 1-A-1-5/16 in. w, B-49/64 in. deep, C-1-3/8 in. high; terminal data, 2 solder lug type, 3/4 in. high, located on top, spaced 5/8 in. c to c; impregnated per spec no. JAN-C-25, no internal ground connections; mounts by bracket no incl; spec no. JAN-C-25, type no. CP61B1EF104V.	gr coup V923
C964		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 250,000 uuf ± 20% −10%; 200 v dc working; hermetically sealed metal case; case dim, ref dwg group 1-A-3/4 in. dia, G-1-13/16 in. lg; terminal data, two no. 10-32 holes, 1/4 in. deep in bushings, 7/32 in. high, located axially; mineral oil impregnated; internally grounded; integral mtg bracket w/ 2 holes 0.156 in. dia, spaced 1-1/8 in. c to c; feed-through type; Sprague Electric Co. type no. 80P5; Bendix Radio part/dwg no. C220194-2.	htr RF filter
C965		CAPACITOR, FIXED, MICA DIELECTRIC: 5600 uuf ± 10%; 500 v dc working; temp coefficient characteristic "B"; molded low-loss casing; case dim, ref dwg group 1-A-53/64 in. w, B-11/32 in. deep, C-53/64 in. w, B-11/32 in. deep, C-53/64 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; spec no. JAN-C-5, type no. CM35B562K.	tuning L908
C966		Same as C964.	htr RF filter
C967		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 100,000 uuf +20% −10%; 600 v dc working; hermetically sealed metal case; case dim, ref dwg group 1-A-11/16 in. dia, G-1-13/16 in. lg; terminal data, 2 holes no. 10-32, 1/4 in. deep in bushings, 7/32 in. high, located axially; mineral oil impregnated; internally grounded; integral mtg bracket w/ 2 holes 0.156 in. dia, spaced 1-1/16 in. c to c; feed-through type; Sprague Electric Co., type no. 80P3; Bendix Radio part/dwg no. C220194-1.	htr RF filter
C968		CAPACITOR, FIXED, MICA DIELECTRIC: 390 uuf ± 10%; 500 v dc working; temp coef characteristic "B"; molded low-loss casing; case dim, ref dwg group 1-A-51/64 in. w, B-7/32 in. deep, C-15/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; spec no. JAN-C-5, type no. CM20B391K.	tuning L909
C969		Same as C967.	htr RF filter

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C970		CAPACITOR, FIXED, MICA DIELECTRIC: 22 uuf ±10%; 500 v dc working; −200 to +200 parts per million per deg C temp coefficient; molded low-loss bakelite casing; case dim, ref dwg group 1-A-1/2 in. w, B-11/64 in. deep, C-9/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; Electro Motive Mfg Co., part no. CM15C220K; Bendix Radio part/dwg no. OC220133-47.	gr byp V925
C971		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 29, MBCA ref dwg group 1; 750 mmf ±2%; 2500 v dc working; −200 to +200 parts per million per deg C; molded case per spec JAN-C-5; case dim, 1-25/32 in. lg, 1-11/32 in. wide, 15/32 in. thick; terminal data, two 0.144 in. dia holes, spaced 1.25 in. c to c; terminal-mounted; spec no. JAN-C-5, spec type no. CM56C751G.	pl tuning V925
C972		CAPACITOR, FIXED, MICA DIELECTRIC: case style no. 22, MBCA ref dwg group 1; 5600 mmf ±10%; 500 v dc; molded case per spec JAN-C-5; case dim, 53/64 in. lg, 53/64 in. wide, 11/32 in. high; 2 wire-lead type terminals, located axially; terminal-mounted; spec no. JAN-C-5, spec type no. CM35B562K	pl tuning V925
C973 A, B		CAPACITOR, FIXED, PAPER DIELECTRIC: 2 section; 250,000 uuf ea section +40 −15%; 600 v dc working; hermetically sealed metal casing; case dim, ref dwg group 1-A-1-13/16 in. w, B-1 in. deep, C-1 in. high; 3 solder lug type terminals, located on top; impregnated per spec no. JAN-C-25; no internal ground connections; mtg data, 2 integral mounting ears, ea w/ hole 3/16 in. dia, spaced 2-1/8 in. c to c; spec no. JAN-C-25, type no. CP54B4EF254M.	A. scr byp V925 B. pl byp V925
C974 A, B		CAPACITOR, FIXED, PAPER DIELECTRIC: 2 section; case style no. 34, MBCA ref dwg group 1; 50,000 mmf, 100,000 mmf ±10%; 2000 v dc working; hermetically sealed metal case; case dim, excluding terminals, 1-13/16 in. wide, 1-1/16 in. deep, 2-1/4 in. high; terminal data, 3 terminals, 2 standoff solder lug type, 1 solder lug type 1-9/16 in. high max, 2 standoff type on top of case, 1 solder lug type on side of case, 3/4 in. c to c on top of case and 1/2 in. from top by 17/32 from right end on side of case, ceramic pillars; oil impregnated; oil filled; both sections internally grounded; bracket mounting, bracket not furnished; design of 2 standoff terminals optional; Sprague Elec Co. part no. P17030; Bendix Radio part no. C220005.	A. HV supply filter V927 B. HV supply filter V916
C975 A, B		Same as C974.	A. neg HV supply filter V926 B. neg HV supply filter V926
C976		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf ±20%; 500 v dc working; temp coefficient variable; uninsulated body; case dim, ref dwg group 1-A-5/16 in. w, G-5/8 in. lg; 2 axial hook type terminals, 1 mtg bushing terminal, 1 term 0.24 in. lg, 1 term 0.27 in. lg; feed-through method of mtg, no. 12-28 thread for mtg; Erie Resistor Corp. type no. 357-Hi-K-12; Bendix Radio part/dwg no. C220077-1.	HV meter bypass
C977		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 100,000 uuf +40 −15%; 1000 v dc working; hermetically sealed metal casing; case dim, ref dwg group 1-A-1-13/16 in. w, B-1 in. deep, C-3/4 in. high; terminal data, 2 solder lug type terminals, located on side; impregnated per spec no. JAN-C-25; no internal ground connections; mtg data, 2 integral mtg ears, ea w/ hole 3/16 in. dia, spaced 2-1/8 in. c to c; spec no. JAN-C-25, type no. CP53B1EG104M.	focus bypass V916
C978		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 500,000 uuf +40 −15%; working voltage, 400 v dc; hermetically sealed metal case; case dim, ref dwg group 1-A-1-13/16 in. w, B-1 in. deep, C-7/8 in. high; 2 solder lug type terminals, located on side; impregnated per spec no. JAN-C-25; no internal ground connections; mtg data, 2 integral mtg ears, ea w/ hole 3/16 in. dia, spaced 2-1/8 in. c to c; spec no. JAN-C-25, type no. CP53B1EE504M.	gr byp V916

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E901		CONTACT ASSEMBLY, ELECTRICAL: p/o lampholder; 2 spring contacts; over-all dim, 0.83 in. lg, 0.76 in. w, 0.44 in. h; 2 solder lug type terminals; 2 mtg holes 0.120 in. dia, spaced approx 0.55 in. c to c; Bendix Radio part/dwg no. C207465-1.	for I901
E902		TERMINAL, STUD: style no. 58, ref dwg group 21; 12,000 v dc breakdown; solder connection; brass terminal, melamine insulation, spec no. MIL-P-14A, type MME; terminal hot tin dipped; over-all dim, 0.938 in. lg, 0.250 in. w across hex flats; mounts by no. 4-40 insert 0.187 in. deep; Elcon Mfg Co. part no. TT-19; Bendix Radio part/dwg no. C243900-4.	terminal (qty of 14 required)
E903	5	INSULATOR STANDOFF: material data, molded mica filled phenolic body, brass insert; grade and color per spec MIL-P-14A type MFE; cadmium-plated inserts; 12,000 v breakdown voltage; cylindrical pillar shape, MBCA ref dwg group 9; item code no. 207, ref dwg group 9; dimensions, D-0.234 in. L-0.643 in., S-0.187 in., R-0.187 in., one 4-40 thread tapped mounting hole centered on bottom; hex, 0.250 in. across flats on one end; Elcon Mfg Co. type no. PT-19-E; Bendix Radio part/dwg no. C243901-2.	tie point
E904 thru E911		Not used.	
E912	3	TERMINAL, STUD: stype no. 45, ref dwg group 21; 7000 v dc breakdown; solder connection; brass terminal and stud, melamine insulation; terminal hot tin dipped, stud cadmium-plated; over-all dim, 0.594 in. lg, 0.156 in. w across hex flats; mounts by no. 2-56 stud 0.219 in. lg; Winchester Electronic Co. dwg no. MTS7; Bendix Radio part/dwg no. C243872-1.	terminal (qty of 7 required)
E913 thru E919		Not used.	
E920		INSULATOR, STANDOFF: material data, steatite, L 4 grade, white; glazed finish; voltage rating per spec JAN-I-8; cylindrical shape, MBCA ref dwg group 9; item code no. 10, MBCA ref dwg group 9; dimensions as indicated in ref dwg group 9, L-0.50 in. long, C-5/32 in., D-3/8 in. dia, T no. 6-32 thread; mounts by no. 6-32 threaded axial bore; strength per spec JAN-I-8; marked per spec JAN-I-8; spec no. JAN-I-8, spec type no. NS4W0104.	for mounting TB903
E921		Same as E920.	for mounting TB903 TB903
E922		Same as E920.	for mounting TB903
E923		Same as E920.	for mounting TB903
E924		Same as E920.	for E926
E925		Same as E920.	for E926
E926		INSULATOR, STANDOFF: material data, steatite, L-3 grade, white; glazed finish; voltage rating per spec JAN-I-8; cylindrical pillar shape, MBCA ref dwg group 9; item code no. 10, MBCA ref dwg group 9; dim, 2.50 in. lg, 3/8 in. lg tapped holes, 1/2 in. dia, no. 8-32 thread; mounts by two no. 8-32 threaded holes, located axially; strength per spec JAN-I-8; permanently marked per spec JAN-I-8 with type designation and mfr identification; spec no. JAN-I-8, type no. NS3W0220.	standoff
E927		SHIELD, ELECTRON TUBE: construction data, accommodates RMA tube envelope style T-5-1/2, straight cylinder shape w/ flared end, open top, 1 opening provided specifically for electrode leads; copper or brass; over-all dim, 1-3/8 in. lg, 0.810 in. ID, 0.930 in. w inside mtg bosses; mounts on shock shield base; parts data, 1 body, 1 non-magnetic spring, spec no. JAN-S-28A, type no. TS102U01.	for V903
E928		Same as E927.	for V904
E929		Same as E927	for V906
E930		Same as E927.	for V907
E931		Same as E927.	for V908
E932		Same as E927.	for V909
E933		Same as E927.	for V923

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E934		Same as E927.	for V910
E935		Same as E927.	for V911
E936		SHIELD, ELECTRON TUBE: construction data, accommodates RMA tube envelope style T-5-1/2, straight cylinder shape w/ flared end, open top; copper or brass; over-all dim, 1-3/4 in. lg, 0.810 in. ID, 0.930 in. w inside mtg bosses; mounts on shock shield base; parts data, 1 body, 1 non-magnetic spring; spec no. JAN-S-28A, type no. TS102U02.	for V924
E937		SHIELD, ELECTRON TUBE: construction data, accommodates RMA tube envelope style T-5-1/2, straight cylinder shape w/ flared end, open top; copper or brass; over-all dim, 2-1/4 in. lg, 0.810 in. ID, 0.930 in. w inside mtg bosses; mounts on shock shield base; parts data, 1 body, 1 non-magnetic spring; spec no. JAN-S-28A, type no. TS102U03.	for V918
E938		Same as E937.	for V919
E939		Same as E937.	for V921
E940	5	SHIELD, ELECTRON TUBE: construction data, accommodates RMA tube envelope style T-6-1/2, straight cylinder shape w/ flared end, open type, 1 opening provided specifically for electrode leads; copper or brass, over-all dim, 1-1/2 in. lg, 0.950 in. ID, 1.065 in. w inside mtg bosses; mounts on shock shield base; parts data, 1 body, 1 nonmagnetic spring; spec no. JAN-S-28A, type no. TS103U01.	for V901
E941		Same as E940.	for V902
E942		Same as E940.	for V905
E943		Same as E940.	for V912
E944		Same as E940.	for V913
E945		Same as E940.	for V914
E946		Same as E940.	for V915
E947		CLIP, ELECTRICAL: similar to grid-plate style no. 5, ref dwg group 37; brass; cadmium-plated finish; dim, 0.80 in. lg, 0.76 in. dia; natural plastic insulation; 1 wire-lead type terminal; 1/4 in. dia mating tube cap; wire-lead 5 in. lg w/ 3000 v insulation; Bendix Radio part/dwg no. C208324-1.	pl V926
E948		CLIP, ELECTRICAL: similar to grip-plate style no. 5, ref dwg group 37; brass; cadmium-plated finish; dim, 0.80 in. lg, 0.76 in. dia; natural plastic insulation; 1 wire-lead type terminal; 1/4 in. dia mating tube cap; wire-lead 9 in. lg w/ 3000 v insulation; Bendix Radio part/dwg no. C208324-2.	pl V927
E949		CLIP, ELECTRICAL: similar to grip-plate style 11, MBCA ref dwg group 37; rubber body, brass contact; tin plate finish on brass contact; dim, 1-13/64 in. lg, 47/64 in. wide; rubber insulation; 1 solder lug type terminal; Cinch Mfg Corp. per Bendix dwg A242240; used as electron tube contact clip; Bendix Radio part no. A242240.	anode clip V916
E950		INSULATOR, BUSHING: material data, laminated plastic, spec no. MIL-P-15047, type NPG, natural color; no voltage rating; shoulder shape, ref dwg group 9; item code no. 90, ref dwg group 9; dim, ref dwg group 9-D-0.750 in., E-0.040 in., F-0.460 in., H-0.390 in., L-0.10 in., mounts by 0.390 in. bore; Bendix Radio part/dwg no. C293172-2.	for J904
E951		KNOB: rd shape, ref dwg group 186; aluminum; black; aluminite finish; positive gripping surface; dim data, 0.625 in. max OD, 0.562 in. thk over-all; shank data, straight, 0.375 in. dia cross-sectional dim by 0.188 in. lg, 0.248 in. dia min cross sectional dim by 0.187 in. lg; attachment data, designed to accommodate 0.172 in. dia unthreaded shaft, 0.468 in. deep hole; set screw fastening, 2 set screw holes, no. 6-32 thread size, w/o set screws, w/o markings; Bendix Radio part/dwg no. A245195-1.	for R920
E952		Same as E951.	for brilliance control
E953		Same as E951.	for focus control
E954		Same as E951.	for R944
E955		Same as E951.	for R945

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E956		KNOB: rectangular shape w/ bar face; aluminum alloy; white; baked enamel finish; plain gripping surface; dim data, 0.76 in. lg over-all, 0.62 in. w over-all, 0.62 in. thk over-all; shank data, straight, 0.50 in. dia min cross sectional dim, attachment data, designed to accommodate 1/4 in. dia unthreaded shaft, 0.38 in. deep hole; set screw fastening, 2 set screw holes, no. 6-32 thread size, w/o set screws; w/o markings; Bendix Radio part/dwg no. N245412-3.	for S910
E957		KNOB: rd shape, ref dwg group 186; aluminum alloy; light red; baked enamel finish; positive gripping surface; dim data, 0.76 in. max OD, 0.62 in. thk over-all; shank data, straight, 0.50 in. dia min cross-sectional dim; attachment data, designed to accommodate 1/4 in. dia unthreaded shaft, 0.38 in. deep hole; set screw fastening, 2 set screw holes, no. 6-32 thread size, w/o set screws; w/o markings; Bendix Radio part/dwg no. N245412-5.	for R1059
E958		Same as E957.	for R1040
E959		DIAL, CONTROL: knob type; scale data, 1 to 20, cw, graduated in increments of 1, 360° arc; direct drive; 1/4 in. dia shaft coupling; dimensional data 1.02 in. high, 2.00 in. max dia, 0.30 in. approx front shaft extension, 0.177 in. extension depth behind panel; mounts by 1/4 in. bore, retained by set screw, not supplied; dial not illuminated; Bendix Radio part no. C207583-1.	channel selector dial
E960 thru R962		Not used.	
E963		CAP, ELECTRICAL: aluminum alloy w/ natural plastic insert; black alumilite finish; body dim, 0.56 in. dia, 0.32 in. deep; mounts by 1/2 in.-28 external thread; Bendix Radio part/dwg no. C208175-1.	for I907
E964		Same as E963.	for I908
E965		Same as E963.	for I909
E966		SHIELD, ELECTRON TUBE: construction data, accommodates RMA tube envelope style T-5-1/2, tapered cylinder shape, open top, 1 opening provided specifically for electrode leads; low-loss phenolic, spec no. JAN-P-14 type no. MTS-E-4; over-all dim, 1-31/32 in. lg, 1-5/32 in. dia; mounts on 1 in.-14 threaded base; parts data, 1 body, 1 non-magnetic stainless steel spring; Eby Hugh H. Inc. part no. 8292; Bendix Radio part/dwg no. C293133-2.	for V926
E967		Same as E966.	for V927
E968		TERMINAL, STUD: similar to style no. 21, ref, dwg group 21; 4800 v ac insulation test; solder connection; brass terminal and stud, silicone impregnated ceramic insulation; terminal silver-plated, stud cadmium-plated; over-all dim, 0.781 in. lg, 5/16 in. w across hex flats; mounts by no. 6-32 stud 1/4 in. lg; Cambridge Thermionic Corp. part no. XI942-X; Bendix Radio part/dwg no. C243766-1.	tie point
E969		Same as E968.	tie point
E970	4	INSULATOR, BUSHING: material data, laminated plastic per MIL spec MIL-P-15047/NPG; unfinished; bushing shape, MBCA ref dwg group 9; item code no. 90 MBCA ref dwg group 9; dimensions per ref dwg group 9-D-0.69 in., F-0.586 in., H-0.502 in., L-0.09 in., E-0.050 in.; mounts by ID; Bendix Radio part/dwg no. C293172-1.	p/o XI904 (qty of 2 required)
E971		Same as E970.	for XI905 (qty of 2 required)
E972		Same as E970.	for XI906 (qty of 2 required)
F901		FUSE, CARTRIDGE: electrical rating, 2 amp, 125 v max; operating time delay rating, 3 sec at 500% load; 1/4 in. dia ferrule type terminal; glass body; one time; over-all dim, 1-1/4 in. lg, 1/4 in. dia; Bussman Mfg Co. part no. MDL-2; Bendix Radio part/dwg no. OC221603-6202.	power input
F902		Same as F901.	power input
H901		CLAMP, ELECTRICAL: stainless steel; 1 clamp type fastening device; over-all dim, 1-5/32 in. ID closed, 3/4 in. high bracket; mounts by right angle bracket located 100 deg from hinge w/ clearance hole for no. 10 screw located on 51/64 in. radius; designed to hold electron tube base 1-5/32 in. dia; Birtcher Corp. part no. 926A; Bendix Radio part/dwg no. L74947-1.	for V921

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
H902		CLAMP, ELECTRICAL: stainless steel; 1 clamp type fastening device; over-all dim, 1-3/8 in. ID closed, 3/4 in. high bracket; mounts by right angle bracket located 120 deg from hinge w/ clearance hole for no. 10 screw located on 29/32 in. radius; designed to hold electron tube base 1-3/8 in. dia; Birtcher Corp. part no. 926C; Bendix Radio part/dwg no. L74947-3.	for V922
H903		RETAINER, ELECTRON TUBE: for medium shell octal tubes, dim as indicated in ref dwg group 229-A-1.50 in. B-1.50 in. C-60 deg D-115 deg, K-0.53 in.; w/holding spurs; w/o insulating cushion; w/o post locating tab; w/o base plate; has 3/16 in. w by 3/16 in. lg mtg slot on footed bracket; Bertcher Corporation code no. 85556, part no. 926B-2; Bendix Radio part/dwg no. L74947-8.	for V925
H904		Same as H902.	for V917
H905	2	SCREW, EXTERNALLY RELIEVED BODY: stainless steel per spec AISI type no. 303; passivate finish; head data, binding, Section A, ref dwg group 29, slot, Section B, ref dwg group 29-A-0.230 in. dia, H-0.078 in. h; dim, externally relieved body, Section H, ref dwg group 29-A-0.078 in. first dia from head, A-0.26 in. from bearing surface to end of undercut, L-0.44 in. lg; thread data, 0.112 (no. 4) in. OD, 40 threads per in., NC, class 2 fit, 0.18 in. lg; Bendix Radio part/dwg no. C241919-1.	for holding shield to chassis (qty of 22 required)
H906		ALIGNMENT TOOL, ELECTRONIC EQUIPMENT: black bakelite; 0.38 in. dia by 5.00 in. lg; has 0.255 in. hex bore thru entire length for attachment to alignment screws; Insuline Corp. of America part no. 980; Bendix Radio part/dwg no. C245997-1.	for indicator adjustment
H907	2	SCREW, CAPTIVE: slot drive; hex head, unfinished; SS no. 303, black oxide finish; 1/4 in.-20NC-2 thd; 0.93 in. lg; 0.25 in. lg threaded portion; 0.19 in. thk head, 0.38 in. across flats; 1/4 in. diam by 0.078 in. lg shoulder; 0.185 in. dia by 0.602 in. lg body; Bendix Radio part/dwg no. C241489-1.	for holding panel to cabinet (qty of 8 required)
H908		PLATE, MOUNTING, CAPACITOR: material per JAN-C-25; finish per JAN-C-25; mounting data, holds capacitor by means of "J" shaped portion on one end of mounting, single no. 10-32 threaded spade V lug double riveted per attachment to supporting surface; tow required to mount capacitor; for mtg capacitor; spec no. JAN-C-25, spec type no. CP07SA2.	for C974
H909		Same as H908.	for C975
H910		Same as H908.	for C975
H911		Same as H908.	for C974
H912 thru H915		Not used.	
H916	2	BUMPER, RUBBER: soft sponge natural rubber; special bumper used as cushion for electron tube; dim, 0.45 in. w by 0.125 in. thk rubber formed into 180 deg arc on 2.28 in. inside, 2.84 in. outside radius; durometer hardness rating not determined; Bendix Radio part/dwg no. A234721.	cushion for V916
H917		Same as H916.	cushion for V916 (qty of 3 required)
H918		SCREW, CAPTIVE: slot drive; FH fillister, finished; SS, type no. 303, passivate finish; 10-32 NC-2 thd; 1 in. lg; 9/32 in. lg threaded portion; 3/16 in. thk by 5/16 in. dia head; Bendix Radio part/dwg no. A241032.	mounts N901 to front panel
H919		SCREW, ADJUSTMENT: SS, passivate finish; adjustment of rollers between rotating scale and housing of cursor indicator; Bendix Radio part/dwg no. A295150.	for N901 (qty of 3 required)
H920		Not used.	
H921 thru H927		Not used.	
H928		PLATE, MOUNTING, CAPACITOR: any material acceptable per JAN-C-25; finished per JAN-C-25; mounting data, holds item against panel, two no. 6-32NC-2 mounting studs 1-9/16 in. c to c; for mounting capacitor; spec no. JAN-C-25, spec type no. CP06SA2; marked w/ JAN type designation CP06SA2.	for C963
H929	4	WASHER, FLAT: annular shaped; brass, nickel-plated; hole dimensions, 0.501 in. dia, 0.032 in. lg; outside dim, 0.68 in. OD, 0.032 in. thk; Bendix Radio part/dwg no. OA17042-283 (BM-732-4 finish).	p/o XI904 for XI905
H930		Same as H929.	for XI906

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
H931		Same as H929.	for XI904
H932	4	WASHER, LOCK: stainless steel type 410 w/ passivate finish; flat internal teeth, style no. 2, ref dwg group 201; dim, 5/8 in. OD, 1/2 in. ID, 0.022 in. material thk; Shakeproof Lock Washer Co. part no. 1724-02; Bendix Radio part/dwg no. A18040-41.	
H933		Same as H932.	for XI905
H934		Same as H932.	for XI906
H935	4	NUT, PLAIN, HEXAGON: brass, nickel-plated finish; machining finished, chamfered bearing surface; 1/2-32, special, class 2 fit thread; dim, 0.625 in. max width across flats, 0.093 in. max over-all height; 30° chamfer, both sides; Bendix Radio part/dwg no. HSN775B-26.	p/o XI904
H936		Same as H935.	for XI905
H937		Same as H935.	for XI906
I901		LAMP, INCANDESCENT: electrical rating data, 6 v, 0.2 amp; lamp data, MBCA ref dwg group 7, midget flange base, bulb data, T-1-3/4 clear, white light emitted, filament data, 1 tungsten C-6; 5/8 in. max over-all height; any burning position; AN incandescent lamp, type no. AN3140-328.	preset channel indicator
I902		Same as I901.	manual channel indicator
I903		Same as I901.	preset manual indicator
I904		LAMP, INCANDESCENT: electrical rating data, 28 v, 1.12 watts, 0.04 amp; lamp data, MBCA ref dwg group 7, midget flange base, bulb data, type T-1-3/4, clear white light emitted, filament data, 1 filament, tungsten, similar to style C-7A; 5/8 in. max over-all height; over 25 hr rated life; any burning position; General Electric Co. part no. 327; Bendix Radio part no. C221312-4, type no. AN3140-327.	operation indicator
I905		Same as I904.	hunting indicator
I906		Same as I904.	lock-up indicator
I907		Same as I901.	alidade illumination
I908		Same as I901.	alidade illumination
I909		Same as I901.	alidade illumination
I910		Same as I901.	manual channel indicator
J901		CONNECTOR, RECEPTACLE: 37 rd male contacts; polarized; straight type; over-all dim, excluding protruding terminals, 1-13/32 in. lg, 2 in. w, 2 in. high; contacts electrically rated at 20 amp, 200 v dc, 150 v ac; body data, cylindrical shape w/ sq mtg flange, aluminum alloy, cadmium-plated finish; locking type; any acceptable insert material per spec no. MIL-C-5015; mtg data, 4 holes, 0.147 in. dia, 1-9/16 in. by 1-9/16 in. mtg centers; coupling thread data, no. 1-3/4 in.-18 thread for mating w/ coupling nut; spec no. MIL-C-5015, type no. AN3102A-28-21P.	chassis connector
J902		CONNECTOR, RECEPTACLE: 9 rd female contacts; polarized; straight type; over-all dim, 0.344 in. lg, excluding protruding terminals, 0.656 in. wide, 0.718 in. high; contacts rated at 5 amps, 110 v ac; body data, cylindrical shape, molded phenolic body, locking type; mounts by 1/2 in.-20 external thd; includes lockring; Winchester Electric Co. part no. M9SLRN; Bendix Radio part no. C287186-1.	channel selector
J903		CONNECTOR, RECEPTACLE: 1 rd female contact; straight type; over-all dim, 19/32 in. lg, 3/8 in. wide across flats; contact electrical rating, 15 amp; body data, cylindrical body w/ hex head, brass, nickel plate; mounting data, 1 stud-1/4 in. dia, w/ 1/4 in.-28 thread, 1/2 in. lg; General Radio Co. type no. 274-J; Bendix Radio part/dwg no. A100703.	alidade light connector
J904		JACK, TELEPHONE: 2-conductor plug; 0.250 in. dia, 1.218 in. lg shank accommodated; contact arrangement J1, ref dwg group 4; over-all dim, excluding terminals, 1.00 in. lg, 0.75 in. dia; single 3/8 in. dia mtg hole; mtg accessories c/o 1 hexagon nut, 1 brass, nickel-plated washer; Switchcraft Inc. part no. 2J-1050A; Bendix Radio part/dwg no. C223203-1.	headphone jack

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
J905		SOCKET, ELECTRON TUBE: 11 contacts phosphor bronze, silver-plated finish; octal over-all dim, excluding terminals, 1-7/8 in. lg, 1-9/32 in. w, 31/64 in. deep; mica filled bakelite body; mtg data, one-piece saddle mtg, 1-1/8 in. dia chassis hole required, 2 mtg holes, 5/32 in. dia, spaced 1-1/2 in. c to c; American Phenolic Corp. part no. 77-MIP-11TM; Bendix Radio part/dwg no. OA113017-8.	test receptacle
L901		COIL, RADIO FREQUENCY: 5.4 mh at 1000 cycles; physical data, 680 turns approx, 3 strand no. 42 AWG, copper, single silk enameled conductor, 1 winding, pie universal winding, untapped, tin plated copper rectangular shield, ceramic form; coil dim, excluding terminals, mounting attachments and turning devices, 1.28 in. sq, 1.56 in. lg; over-all coil form dim, 1-1/4 in. lg, 3/8 in. dia; 2 terminals, solder lug type, located on bottom; mounts by two no. 6-32 thread studs 0.35 in. lg, spaced 0.75 in. c to c in base; part no. L284025-2 marked on top of case; radio frequency coil w/ various applications; Bendix Radio part no. L284025-2.	osc tank V903
L902		Same as L901.	pl V904
L903		Same as L901.	pl V906
L904		Same as L901.	pl V907
L905		Same as L901.	pl V908
L906		Same as L901.	pl V909
L907		REACTOR: fixed inductance type; 1 section, 5.5 henries inductance, 100 ma dc, 115 ohms dc resistance, 1.5 kv rms test voltage; hermetically sealed metal case; dim, 2.14 in. lg, 2.14 in. w, 3.06 in. high; 4 mtg holes no. 6-32 on 1.500 in. by 1.500 in. mtg centers; 2 solder lug type terminals, located on mtg end; incl protective cover assembled over terminals for spare parts and shipping only; marked w/ Bendix part number; Bendix Radio part/dwg no. L284331-1.	filter choke V917
L908		COIL, RADIO FREQUENCY: 1 winding random wound, 0.75 mh at 1000 cycle, 0.25 ohm dc resistance; plexiglass coil form, ceramg no. 2 core; tinned copper case; over-all dim, excluding terminals, 1.28 in. lg, 1.28 in. w, 1.56 in. high; 2 solder lug type terminals; 2 mtg holes no. 6-32 spaced 0.750 in. c to c; marked w/ Bendix part number; incl 2 ea no. 6-32 screws, lock, and flat washers for spare parts and shipping only; Bendix Radio part/dwg no. L284059-1.	filter htr V925
L909		COIL, RADIO FREQUENCY: 1 winding - 3-pie universal wound, 2 uh ±5% at 1000 cycles, approx 19.5 ohms dc resistance, 150 ma iron core; over-all dim, excluding terminals, 7/16 in. dia, 3/4 in. lg; 2 wire-lead type terminals; terminal-mounted; Q at 400 kc is 65 min; resistant to humidity; Jeffers Electronics part no. 6501-2; Bendix Radio part/dwg no. C215351-2.	filter, pl V925
L910		COIL, RADIO FREQUENCY: 1 winding, single layer wound, 38 turns, no. 28 AWG, enamel insulation, 0.2 ohm max dc resistance; phenolic coil form; over-all dim, excluding terminals, approx 9/32 in. dia, 11/16 in. lg; 2 wire-lead type terminals; terminal-mounted; min Q of 50 at 10 mc; Jeffers Electronics Corp. part no. 10702-1; Bendix part/dwg no. OC215350-20.	filter htr V925
L911		COIL, RADIO FREQUENCY: 1 winding, 3-pie universal wound, 10 uh at 1000 cycles, approx 43 ohms dc resistance; ceramag no. 2 or equal coil form; over-all dim, excluding terminals - approx 25/64 in. dia, 5/8 in. lg; 2 wire-lead type terminals; terminal-mounted; Bendix Radio part/dwg no. C284040-1.	filter, pl V925
N901	1	CURSOR, INDICATOR: rd, over-all dim, 2.15 in. lg, 7.38 in. dia; mounts by three captive screws w/ no. 10-32 thd spaced 120 deg apart on 3.562 in. dia radius; c/o housing w/ rotating ring and green plexiglass window w/ arrow, 0 to 360 deg scale numbered every 10 and marked every 2 deg, light ring w/ lamps, and misc hdw; Bendix Radio part/dwg no. N208182-4; unit package; used as rotatable scale for visual indication of direction finder signal.	housing and az scale for tube

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
N902		DIAL, SCALE: scale data, 0 to 360 cw, graduated in increments of one, numerals every ten scale graduations, 360° arc; rd; dimensional data, 0.031 in. thick, 6.44 in. OD, 4.00 in. dia center hole; six 0.157 in. mounting holes in 3 groups of two, groups spaced 120° c to c on 3.06 in. radius; aluminum alloy 61S-T6; finished w/ pumiced highlight background and water dip lacquer both sides; marked with circuit symbols on back; Bendix Radio part/dwg no. L247227-1.	p/o N901
N903		POINTER, DIAL: marker for CRT indicator; clear amber and transparent plastic per MIL-P-5225 w/a (MM) finish; disk shaped; 5.720 in.dia by 0.125 in. thk o/a; four 0.25 in. wd by 0.125 in. lg slots are used to accommodate positioning pins at 0, 90, 180, and 270 deg, Four 0.25 in. wd by 14 deg lg slots are used with spring device to hold pointer against alidade ring at 45, 135, 225, and 315 deg; marked w/ single vertical arrow w/ single vertical line on each side of arrow and single horizontal line crossing center of arrow and first two lines, all markings engraved and filled with black enamel; Bendix part/dwg no. L247228-1.	p/o N901
N904		DIAL, CONTROL: knob type; scale data, 9 to 0 cw, graduated in increments of 1, 270 deg arc; drive data, direct drive, 1 to 1 ratio, 1/4 in. dia shaft coupling; dim data, 0.75 in. high, 1.30 in. dia; shaft-mounted by 2 set screws not furnished; dial not illuminated; Bendix Radio part/dwg no. C281120-1.	for S905
N905		Same as N904.	for S906
N906		Same as N904.	for S907
N907		DIAL, CONTROL: knob type scale data, 0.9 to 0.0 cw, graduated in increments of 0.1, 270 deg arc, drive data, direct drive, 1 to 1 ratio, 1/4 in. dia shaft coupling; dim data, 0.75 in. high, 1.30 in. dia; shaft-mounted by 2 set screws not furnished; dial not illuminated; Bendix Radio part/dwg no. C281120-2.	for S908
N908		DIAL, CONTROL: knob type; marked "PRESET" "MAN"; drive data, direct drive, 1 to 1 ratio, 1/4 in. dia shaft coupling; dim data, 0.75 in. high, 1.30 in. dia; shaft-mounted by 2 set screws not furnished; dial not illuminated; Bendix Radio part/dwg no. C281119-1.	for S909
O901		COUPLING, SHAFT, FLEXIBLE: rubber bushing type; brass; dull black enamel finish; 1/16 hp at 1750 rpm; for rd type shaft, 0.250 in. dia; 13/16 in. OD by 1-3/8 in. lg over-all; screw mounted w/ 2 holes ea end for no. 10-24 set screw; rubber bushing 43-48 durometer rating, set screws not furnished; Lord Mfg Co. part no. J-1211-1-111; Bendix Radio part/dwg no. C239555-6.	for R1066
O902.		Same as O901.	for R1069
O903		COVER, ELECTRICAL SWITCH: silicone rubber, duro 50-65; over-all dim, 0.5 in. lg, 0.75 in. wide, 0.88 in. high; has 0.375 in. hole for press fit over toggle switch bushing, 0.156 in. opening for handle of switch; used as protective cover for toggle switch; Bendix Radio part/dwg no. C690203-1.	for S902
O904		SPRING, HELICAL, COMPRESSION: cylindrical shape, ref dwg group 65; 9 total number of coils; rh helix, ref dwg group 65; end style no. 1, ref dwg group 65; spring steel per spec ANA, AN-W-17; 0.018 in. dia material; cadmium-plated finish; dim data, 1/2 in. free over-all lg of spring, OD of spring must work in 0.250 in. dia hole, 3/16 in. ID of spring, must work over 0.171 in. dia rod, Bendix Radio part/dwg no. OC239080-2.	spring for O906 (qty of 5 required)
O905		Not used.	
O906	2	SHAFT: stainless steel, passivate finish; cylindrical shape; 1.218 in. lg by 0.250 in. dia over-all; mounts by bushing, not incl; incl protrusion 0.125 in. lg by 0.250 in. w by 0.034 in. thk on 1 end, shaft reduced to 0.171 in. dia by 0.875 in. lg other end; Bendix Radio part/dwg no. A238756-1.	extension shaft for controls (qty of 5 required)
O907	2	SHAFT: for potentiometer; SS; passivated; 29/32 in. lg shaft 0.248 in. dia w/ 5/16 in. dia by 3/16 in. wd shoulder and 1/16 in. wd by 1/8 in. d slot at one end; Bendix Radio part/dwg no. A239031.	for brilliance and focus control (qty of 2 required)

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O908		SEAL, WATER: black silicone sleeve and "O" ring, brass nut; nut is nickel-plated; body dim, 5/8 in. w across flats of hexagon nut, approx 9/32 in. deep; mounts by 3/8 in.-32 female thread of integral nut; Radio Frequency Laboratories Inc. part no. H-1268 (Silicone); Bendix Radio part/dwg no. C230744-2.	variable resistor cover (qty of 7 required)
O909 thru O914		Not used.	
O915		COVER, ELECTRICAL SWITCH: silicone rubber w/brass insert; insert is nickel-plated; 0.938 in. lg by 0.750 in. w across flats of hex shaped body; mounts to toggle switch bushing by 15/32 NS-2 internal thd bushing; used as waterproofing seal for toggle switch; Auto & Precision Mfg. Co. 1030; Bendix Radio part/dwg no. C294484-1.	switch cover (qty of 3 required)
O916 thru O917		Not used.	
O918	2	SPRING: helical compression; general purpose use; 0.016 in. dia steel music wire, cad pl per AN-P61 type; 0.22 in. lg by 0.212 in. dia; 3-1/2 turns; closed ends; Bendix Radio part/dwg no. OC239080-54.	lock spring for indicator sub-assembly
O919		SPRING: helical extension type; for locking pin; 0.031 in. dia music wire; 1 in. lg by 11/32 in. wd by 3/16 in. dia; 9-1/2 turns; hook term indexed 90 deg; mts by term; Bendix part/dwg no. C249536.	for preset mechanism
O920		SPRING: helical-extension type; tension spring for use with memory cylinder release; .031 in. dia steel music wire; .942 in. lg by .372 in. wd by .180 in. thk o/a; 12 turns; one hook term, one loop term, parallel to each other; Bendix part/dwg no. C249537.	for preset mechanism
O921		Not used.	
O922		BEARING, BALL, ANNULAR: ground; single row; radial; non-loading groove; self-contained both rings flush; 0.250 in. bore dia; 0.6250 in. OD; 0.1969 in. over-all; closure data, 2 shields, steel; retainer type, pressed construction, steel; ABEC-1 tolerance; internal fit-up data, std fit; MIL-G-3278 lubricant; New Departure Div of General Motors Corp. part no. 77-R-4-X1E; Bendix Radio part/dwg no. C240186-3.	for memory cylinder shaft
O923		Same as O922.	for memory cylinder shaft
O924		SPRING: leaf type; 0.005 in. thk beryllium copper; 0.005 in. wd by 0.113 in. lg by 3/16 in. h o/a; "W" shaped; Bendix part/dwg no. C249825.	for positioning roller O925
O925		DISK, INDEX: passivated SS; cylindrical; 0.125 in. dia by 0.060 max thk o/a; spring mtd; Bendix part/dwg no. A235331.	positions O926 on guide bar
O926		CAM: brass, cad pl body w/ black plastic bumper; 0.640 in. lg by 0.22 in. wd by 0.22 in. h approx; rect hole for mtg on index bar; Bendix part/dwg no. C207271-1.	actuates S904
O927		BALL, BEARING: stainless steel; spherical; 0.3125 in. dia; mts by OD; The Hartford Steel Ball Co.; Bendix Radio Part no. HA801J-3125.	positioning ball for O923
O928	6	SELECTOR CONTROL SUBASSEMBLY: principal parts c/o guard assy, lamp, panel light, mtg, front panel, escutcheon, dial assy, 2 ball bearings, cam assy; 7.79 in. lg by 2.81 in. w by 3.32 in. h; mounts by 2 cutout guides in back plate which accommodates slide rails, secured by sliding clamp; Bendix part/dwg no. OR207307-2.	
P901		See 1100 series.	
P902		INSERT, ELECTRICAL CONNECTOR: high dielectric type; contact data, 9 round male type, 0.22 in. lg, 110 v ac, 5 amps; phenolic per MIL-P-14B Type MME or better; round shape; over-all dim, 0.770 in. lg, 0.77 in. dia; mounts by 1/2-20 thd; polarized by position of contacts; Winchester Electronics, Inc. part no. M9PLS; Bendix Radio part/dwg no. C287185-1.	channel selector plug
P903		CONTACT, ELECTRICAL: p/o connector, plug; contact includes conducting points, 1 point-nickel silver, dim, 0.175 in. dia, 9/16 in. lg; brass; nickel-plated finish; over-all dim, 1-1/2 in. lg, 5/16 in. wide across flats of hex nut, 5/8 in. high; 1 solder lug type terminal, located on stud; mounts by no. 6-32 by 3/4 in. lg threaded stud; E. F. Johnson Co. type no. 75A; Bendix Radio part no. A11705-3.	alidade lights

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R901		RESISTOR, VARIABLE: composition element; 1 section; 100,000 ohms ±20%; 2 w nom power rating; std A taper, ref dwg group 3; 3 solder lug type terminals; plastic body, metal case, inclosed; dim, ref dwg group 3-1.140 in. max dia, 0.50 in. deep; single shaft-metal, 0.250 in. dia, 0.750 in. lg from mtg surface, high torque, rd, slotted; dim, ref dwg group 3-L-0.047 in. w, K-0.063 in. lg; insulated contact arm; no "off" position; mounted by bushing, 3/8 in. dia, 32 threads per in., 0.375 in. lg, non-turn device located on 0.531 in. radius at 9 o'clock; rated 2 w at 70°C ambient temp; Chicago Telephone Supply Co. part no. Y4432; Bendix Radio part/dwg no. L219625-46.	calibration gain V901
R902		RESISTOR, VARIABLE: composition element; 1 section; 2.5 meg ±20%; 2 w nom power rating; std A taper, ref dwg group 3; 3 solder lug type terminals; plastic body, metal case, inclosed; dim, ref dwg group 3-A-1.140 in. max dia, C-0.50 in. deep; single shaft-metal, 0.250 in. dia, 2 in. lg from mtg surface, high torque, rd, slotted; dim, ref dwg group 3-K-0.063 in. lg, L-0.047 in. w; insulated contact arm; no "off" position; mounted by bushing, 3/8 in. dia, 32 threads per in., 0.375 in. lg, w/ non-turn device located on 0.531 in. radius at 9 o'clock; rated 2 w at 70°C ambient temp; Chicago Telephone Supply Co. part no. Y4433; Bendix Radio part/dwg no. L219625-47.	phasing control V901
R903		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1200 ohms ±10% 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF122K.	pl decoup V901
R904		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 10,000 ohms ±10%; 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF103K.	pl drop V901
R905		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 2700 ohms ±10%; 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; terminal data, 2 wire-lead type terminals; Spec no. JAN-R-11, type no. RC20GF272K.	cath V901
R906		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 39,000 ohms ± 5%; 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF393J.	bias div
R907		Same as R905.	pl coup V901
R908		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3900 ohms ±10%; 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD, insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC 20GF392K.	cath V901
R909		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 22,000 ohms ±10%; 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF223K.	bias V901
R910		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 3900 ohms ±5%; 1/2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF392J.	gr drop V902

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R1032		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 330 ohms ±10%; 1/2 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF331K.	series I905
R1033		Same as R1029.	series I905
R1034		Same as R1029.	series I905
R1035		Same as R1031.	series I905
R1036		RESISTOR, FIXED, WIRE-WOUND: body style no. 14, ref dwg group 2; inductive winding; 2.4 ohms ±5%; 2 w power dissipation, 275°C max continuous operating temp; body dim, 3/4 in. nom lg, 1/4 in. nom dia; silicone coating, resistant to moisture and salt spray; 2 wire-lead type terminals; terminal-mounted; Dale Products, Inc. part no. S35-2R4; Bendix Radio part/dwg no. L220590-4.	series I907
R1037		Same as R1036.	series I907
R1038		RESISTOR, FIXED, WIRE WOUND: body style no. 14, ref dwg group 2; inductive winding; 1.5 ohms ±5%; 2 w power dissipation, 275°C max continuous operating temp; body dim, 3/4 in. nom lg, 1/4 in. nom dia; silicone coating, resistant to moisture and salt spray; 2 wire-lead type terminals; terminal-mounted; Dale Products Inc. part no. S35-1R5; Bendix Radio part/dwg no. L220590-3.	series I907
R1039		Same as R1038.	series I907
R1040		RESISTOR, VARIABLE: composition element; 1 section; 500 ohms ±20%; 2 w nom power rating; std C taper, ref dwg group 3; 3 solder lug type terminals; housing data, plastic body, metal case, inclosed, dim, ref dwg group 3-A-1.406 in. over-all height, B-1.140 in. max dia, C-0.562 in. max deep; single shaft-metal, rd, 0.250 in. dia, 0.750 in. lg from mtg surface, normal torque, insulated contact arm, no "off" position; mounted by bushing, 3/8 in. dia, 32 threads per in., 0.375 in. lg, w/ non-turn device located on 0.531 in. radius at 9 o'clock; waterproof; use limited to 100°C ambient temp; Chicago Telephone Supply Co. part no. SF6698; Bendix Radio part/dwg no. L219627-2.	AF gain
R1041		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 27,000 ohms ±5%; 2 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.370 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC42GF273J.	neg supply filter V918
R1042		Same as R1041.	neg supply filter V918
R1043		Same as R1041.	neg supply filter V918
R1044		Same as R1041.	neg supply filter V918
R1045		Not used.	
R1046		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 27 ohms ±10%; 1 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC30GF270K.	cath V922
R1047		Same as R1046.	cath V922
R1048		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 82,000 ohms ±10%; 1 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC30GF823K.	scr div V923
R1049		Same as R1048.	scr div V923

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R1050		RESISTOR, FIXED, WIRE WOUND: body style no. 12, ref dwg group 2; inductive winding; 2500 ohms ±5%; power rating, 22 w power dissipation, 275°C max continuous operating temp, 25°C ambient temp; body dim, ref dwg group 2-A-2 in. lg, G-1-3/16 in. w, H-21/32 in. thk; coating per spec no. MIL-R-26B, resistant to moisture after thermal shock in air; terminal data, 2 tab type terminals, dim, ref dwg group 2-D-approx 13/32 in. lg, I-17/64 in. max w; 2 mtg holes 0.196 in. dia spaced 2-3/4 in. c to c, mtg hardware provided per spec below; spec no. MIL-R-26B; type no. RW21G252.	pl drop V921
R1051		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 180,000 ohms ±10%; 1/2 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF184K.	filter pl V922
R1052		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 470,000 ohms ±10%; 1/2 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF474K.	pl V923
R1053		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 270,000 ohms ±10%; 1/2 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC20GF274K.	gr V923
R1054		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 180,000 ohms ±5%; 2 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.370 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC42GF184J.	V div
R1055		RESISTOR, VARIABLE: composition element; 1 section; 25,000 ohms ±20%; std A taper, ref dwg group 3; 3 solder lug type terminals; housing data, metal case, plastic body, inclosed, dim, ref dwg group 3-A-1.140 in. max dia, C-0.50 in. deep; single shaft-metal, 0.250 in. dia, 0.500 in. lg from mtg surface, high torque, rd, slotted, dim, ref dwg group 3-K-0.063 in. lg, L-0.047 in. w; insulated contact arm, no "off" position; mounted by bushing, 3/8 in. dia, 32 threads per in., 0.375 in. lg, w/ non-turn device located on 0.531 in. radius at 9 o'clock; rated 2 w at 70°C ambient temp; Chicago Telephone Supply Co. part no. Y4437; Bendix Radio part/dwg no. L219625-51.	ref V adj
R1056		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 82,000 ohms ±5%; 1 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC30GF823J.	V div
R1057		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 56,000 ohms ±10%; 1 w power dissipation rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.280 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec no. JAN-R-11, type no. RC30GF563K.	pl supply dropping V924
R1058		RESISTOR, FIXED, COMPOSITION: 91,000 ohms total resistance; ±5% tolerance; 2 watts power dissipation 70°C ambient temp; temp characteristic "F"; 0.78 in. max lg by 0.336 in. max OD; insulated; 2 wire-lead type terminals; spec no. MIL-R-11A; MIL type no. RC42GF913J.	RF gain dropping

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
S901		SWITCH, SENSITIVE: SPDT; electrical rating, ac-dc, 125-250 v, 10 amp ac, 1/2 amp, 125 v dc; plastic body; dim of body, excluding actuator and terminals, 1.094 in. lg, 0.406 in. wide, 0.625 in. high; actuating mechanism data, plunger type, 0.165 in. lg, 0.110 in. wide, 0.094 in. high approx 0.016 in. max movement differential, 0.047 in. max pre-travel, 1/32 in. min over-travel; 6 to 14 oz operating force, 4 oz min release force; momentary action, one contact normally open, one normally closed; 3 screw type terminals; mounts by two holes one 0.114 in. dia, one 0.126 in. by 0.114 in. oblong shape, on 0.875 in. lg by 0.406 in. wide mounting centers; Micro Switch part no. V3-1, winterized; Bendix Radio part/dwg no. C218305-1.	calibration phase selector A thru G
S902		SWITCH, LEVER, PILE-UP: 3 lever positions, 2 positions locking, 1 position momentary; contact arrangement data, 1st position 2C, 2nd position neutral, 3rd position 5C; power rating data, 24 volts inductive, 48 volts non-inductive, 1/2 amp inductive, 1/4 amp non-inductive; phenolic body; over-all dim, excluding lever, 0.118 in. wide, 1.339 in. high, 2.875 in. deep; bat type lever dim, 1.18 in. lg, 0.375 in. dia; 21 solder lug type terminals; mounts by four no. 2-56 thread tapped holes on 8.12 in. by 0.547 in. mounting centers; Kellogg Switchboard Co. part no. 1214; phenolic parts; Bendix Radio part/dwg no. C206555-1.	sense calibrate
S903		SWITCH SENSITIVE: SPDT; electrical rating, 125 v ac, 10 amp; plastic body; dim of body, excluding actuator, 1-15/16 in. lg, 11/16 in. wide, 57/64 in. deep; actuating mechanism, plunger type, dim, 55/64 in. lg, 21/64 in. lg; 0.0004 to 0.0020 in. max differential movement, 0.020 in. max pre-travel, 0.218 in. min over-travel; 9 to 13 oz operating force; 4 oz min release force; momentary action, one contact normally open, one contact normally closed; 3 solder lug type terminals; 15/32-32 thread mounting bushing 1/2 in. lg; Unimax part no. 20 SMXJ-1; Bendix Radio part/dwg no. OA119536-7.	reset and circle diameter reference
S904	6	CONTACT ASSEMBLY, ELECTRICAL: p/o switch; contact includes conducting points, 64 points, coin silver, dim, 0.09 in. dia, 0.02 in. high; over-all dim, 5.60 in. lg, 1.82 in. wide, 0.92 in. high; DC ratings 0.2 amp max instantaneous, 25.5 v max instantaneous; 37 solder lug type terminals, located on side; mts by two 0.186 in. dia ends of shaft; form A "make" arrangement of contacts; Bendix Radio part/dwg no. L281548-1.	channel selector
S904A		CONTACT, ASSEMBLY, ELECTRICAL: p/o memory cylinder; contact includes conducting points, 10 points, coin silver, dim, 0.090 dia, 0.020 high; nickel silver contact arm set in black plastic; over-all dim, 1.80 in. lg, 1.34 in. wide, 0.417 in. high; terminal data, 1 solder lug type terminal, located on one end; contact surface location data, 0.80 in. from mounting surface to contact axis located above mounting hole has two 0.128 in. dia mounting holes, spaced 0.75 in. c to c on side of plastic mounting strip, also two 0.062 in. radius cut-outs on each side of plastic strip for mounting; Bendix Radio part/dwg no. L293223.	for S904 (qty of 3 required)
S904B		CONTACT ASSEMBLY, ELECTRICAL: p/o memory cylinder; contacts incl conducting points, 10 points, coin silver, dim, 0.09 in. dia, 0.02 in. high; springs are nickel silver, bracket is black plastic; over-all dim, 1.56 in. lg, 1.34 in. wide, 0.72 in. high; 10 solder lug type terminals, located on spring end; contact surface location data, 1.13 in. from mounting surface, located above mounting hole; two 0.128 in. dia mounting holes 0.750 in. c to c; Bendix Radio part/dwg no. L293222.	for S904 (qty of 3 required)
S904C		CONTACT, ELECTRICAL: p/o memory cylinder contact includes conducting point, 1 point, coin silver, dim, 0.090 dia, 0.020 high; nickel silver contact arm set in black plastic; over-all dim, 1.80 in. lg, 0.32 in. wide, 0.417 in. high; 1 solder lug type terminal, located on one end; contact surface location data, 0.80 in. from mounting surface to contact axis, located above mounting hole; has 0.128 in. dia hole for mounting; Bendix Radio part/dwg no. C293221.	for S904 (qty of 2 required)

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
S904D		CONTACT, ELECTRICAL: p/o memory cylinder; contact includes conducting point, 1 point, coin silver, dim, 0.90 in. dia, 0.020 in. high; black plastic body, nickel silver spring; over-all dim, 1.56 in. lg, 0.32 in. wide, .065 in. high; 1 solder lug type terminal, located at end; contact surface location data, 1.13 in. from first mounting hole to contact axis; located above mounting hole; one 0.128 in. dia mtg hole; Bendix Radio part/dwg no. C293220.	for S904 (qty of 2 required)
S904E		SHAFT: p/o contact assy; stainless steel, passivate finish; 0.33 in. wd by 0.50 in. h by 5.60 in. lg; two 0.186 in. dia ends for mtg; Bendix part/dwg no. 1238794-1.	mounting for S904A, B, C, D
S905		SWITCH, ROTARY: 1 section; 2 positions, max number of switching positions possible; contact arrangement data, "non-pileup" type 1 moving contact, 2 fixed contacts, 1 pole, 1 throw; non-shorting contacts; coin silver contacts; nylon base phenolic section insulation; dim, ref dwg group 8, 0.781 in. lg, 1.406 in. w, 1.593 in. high; bushing mounted, 3.8 in. dia, 32 threads per in., 0.375 in. lg; shaft data, rd type, 0.875 in. lg, 0.250 in. dia; solder lug terminals; incl lockwasher and nut; marked w/ Bendix dwg number; non-turn device located on 0.531 in. radius at 9 o'clock incl rubber seal washer; Grigsby-Allison Co. Inc. part no. 5230-4MLW-1; Bendix Radio part/dwg no. C218500-9.	channel marker selector
S906		SWITCH, ROTARY: 1 section; 12 positions, max number of switching positions possible; contact arrangement data, "non-pileup" type, 1 pole, 10 throws; coin silver contacts and rotor blades; phenolic section per MIL-P-3115A grade PBE-P; dim, 0.781 in. lg, 1.406 in. wide, 1.593 in. high; mounts by 0.375 in. lg, 3/8 in.-32 thread bushing; round shaft, 0.875 in. lg, 0.250 in. dia; solder lug terminals; 30° detent without stops; resistant to salt spray; has waterproof mtg seal; fungus proof treated phenolic; Grigsby-Allison part no. 5231-4MLW-1; Bendix Radio part/dwg no. C218500-7.	channel marker selector
S907		Same as S906.	channel marker selector
S908		Same as S906.	channel marker selector
S909A, B		SWITCH, ROTARY: 2 sections; 2 positions, max number of switching positions possible; contact arrangement data, "non-pileup" type, 8 moving contacts, 24 fixed contacts, 8 poles, 2 throws; non-shorting contacts; coin silver contacts; nylon base phenolic section insulation; dim, ref dwg group 8; 0.875 in. lg, 1.406 in. w, 1.593 in. high; bushing mounted, 3/8 in. dia, 32 threads per in. 0.375 in. lg; shaft data, rd type, 0.875 in. lg, 0.250 in. dia; solder lug terminals; incl lockwasher and nut; marked w/ Bendix part number; non-turn device located on 0.531 in. radius at 9 o'clock; incl rubber seal washer; Grigsby-Allison Co. Inc. part no. 5232-4MLW-2; Bendix Radio part/dwg no. C218500-8.	preset-manual selector
S910		SWITCH, ROTARY: 2 sections; 6 positions, max number of switching positions possible; contact arrangement data, "non-pileup" type, 4 moving contacts, 24 fixed contacts, 4 poles, 5 throws; contacts, non-shorting, coin silver; nylon base phenolic section insulation; dim, 1.593 in. lg, 1.406 in. w, 1.593 in. high; bushing mounted, 3/8 in. dia, 32 threads per in. 0.375 in. lg; rd type shaft, 0.750 in. lg, 0.250 in. dia; solder lug terminals, incl lockwasher and nut; marked w/ Bendix part number; non-turn device located on 0.531 in. radius at 9 o'clock; incl rubber seal washer; Grigsby-Allison Co. Inc. part no. 5036-4MLW-2; Bendix Radio part/dwg no. C218500-10.	A. B. C. } light intensity D. not used
S911		SWITCH, TOGGLE: spst; 2 positions; electrical ratings per JAN spec below; plastic body; over-all dim, excluding bushing and handle, 1-9/64 in. lg, 41/64 in. w, 1-1/16 in. deep; bat type actuating handle, 11/16 in. lg, excluding lg of bushing; 2 screw type terminals; single hole mtg type 15/32 in. dia bushing, 32 threads per in., 15/32 in. lg from mtg surface; spec no. JAN-S-23, type no. ST42A.	power
S912		Same as S911.	squelch "on-off"
S913		Same as S911.	antenna motor

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
T901		TRANSFORMER, AUDIO FREQUENCY: input type; primary winding, 600 ohms over-all impedance, center tapped, secondary winding, 110,000 ohms over-all impedance, terminals 4-5 singly loaded, 100,000 ohms over-all impedance, terminals 5-6 singly loaded; 1000 v test voltage; fully inclosed, copper case; over-all dim, 1.62 in. lg, 1.60 in. w, 2.56 in. high; 1 to 26 primary to secondary ratio of turns; 150 to 10,000 cycle frequency range, ± 1 db over frequency range, not tuned; 6 solder lug type terminals, located on mtg end; 4 mtg holes no. 6-32 on 1.030 in. by 1.030 in. mtg centers; leak proof; incl protective cover assembled over terminals for spare parts and shipping only; marked w/ Bendix part number; Bendix Radio part/dwg no. C284058-1.	calibration input
T902		TRANSFORMER, POWER, STEP-DOWN AND STEP-UP: inclosed metal case; input data, 115 v ac, 50 to 60 cycles, single phase; 6 output windings, no. 1 secondary 1000 v, no. 2 secondary 6.3 v, no. 3 secondary 6.3 v, no. 4 secondary 6.3 v, no. 5 secondary 5.0 v, no. 6 secondary 6.3 v, no. 1 secondary 0.097 amp, no. 2 secondary 5.0 amp, no. 3 secondary 2.68 amp, no. 4 secondary 0.6 amp, no. 5 secondary 2.0 amp, no. 6 secondary 0.6 amp, nos. 1 and 2 secondaries center tapped; nos. 2 and 3 secondaries are 1500 v, nos. 4 and 5 secondaries are 2000 v, no. 1 secondary is 3000 v, no. 6 secondary is 5000 v insulation; potted with Robertson RR no. 2531 compound; dim, 5 in. lg, 4-9/32 in. wide, 5-3/8 in. high; 17 terminals, solder lug type, mounted on pillars approx 3/8 in. high, located on bottom; mounts by four 5/16 in. dia holes on 3-3/4 in. by 3 in. centers; internal shielding provided; part number, item name and schematic stencilled on side; no. 1 secondary tapped at 300 v, 0.017 amp; Bendix Radio part/dwg no. L284057-1.	power
*T903		TRANSFORMER, RADIO FREQUENCY: 5 windings, single turn coupling winding, 2 single layer windings, single universal pie winding, single winding 5 pie universal wound; winding no. 1, coupling coil; winding no. 2, plate coil, 370 mh ± 5% at 265 kc; winding no. 3, fil no. 1; winding no. 4, fil no. 2; winding no. 5, high voltage coil, 16 mh ± 5% at 265 kc; coupling coil, 1 turn no. 20 polyethylene insulated wire; plate coil, 118 turns of 15 by 44 single silk covered litz; fil no. 1, 2-5/6 turns BTW1000A4; fil no. 2, 4-5/16 turns BTW1000A4; high voltage coil, 230 turns per pie of 3 by 41 single silk covered litz, total turns 1150; plate coil, 5 ohms ± 15% dc; high voltage coil, 130 ohms ± 15% dc; operating frequency approximately 265 kc; untapped; shield, rectangular shape, metal, fused tin plate finish, black enamel w/ white characters; over-all length excluding terminals and mtg attachments, 4.20 in. lg max; over-all width and height excluding terminals and mtg attachments, 3.30 in. wide max, 3.26 in. high max; natural plastic coil form per JAN-P-79/LTS-E-4 (XXX); air core; over-all coil form dimensions, 4.06 in. lg, 0.75 in. dia; no adjustable tuning; mounts by four 1/4 in.-20NC-2 by 0.47 in. lg studs spaced on 2.260 in. sq mtg centers; three 0.70 in. max high solder lug terminals on bottom, four 0.90 in. max high solder lug terminals on side; case stamped with part no. L284056-1 and terminal no. 1 to 7; fil no. 2 coil and high voltage coil connected in series, coils treated to be moisture proof; Bendix Radio part no. L284056-1.	HV osc
**T903		TRANSFORMER, RADIO FREQUENCY: approx 265 kc operating frequency; 4 windings; coupling coil winding has one turn, no. 20 AWG wire size, untapped; plate winding rated 370 mh inductance, 118 turns, 15 x 44 litz, 5 ohms dc resistance; untapped; filament no. 1 winding has 3-5/6 turns no. 22 AWG wire size, untapped; filament no. 2 winding has 6-5/6 turns, no. 22 AWG wire size untapped; high voltage winding rated 16 mh inductances, 1150 turns, 3 x 41 litz, 130 ohms dc resistance, untapped, metal case; natural plastic form; 3.30 in. lg by 3.26 in. w by 4.20 in. h over-all; has four 1/4-20 NC-2 mtg studs spaced on 2.26 in. by 2.26 in mtg centers; 7 solder lug type terminals; marked w/ Bendix part/ number; finish terminal of high voltage winding connected to start terminal of filament no. 2 winding, start terminal of high voltage winding grounded, start terminal of coupling coil unterminated, Bendix Radio part/dwg no. L284056-2.	HV osc
		*Used in equipment serial no. 1 to 253, inclusive. **Used in equipment serial no. 254 and subsequent.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
V901		ELECTRON TUBE: glass envelope; reliable minature twin triode, receiving; spec no. MIL-E-1B, type no 5670.	calibration phase splitter
V902		Same as V901.	video differential amplr
V903		ELECTRON TUBE: glass envelope; dual control rf pentode, sharp cut-off, receiving; spec no. MIL-E-1B, type no. 6AS6.	carrier osc
V904		Same as V903.	1st mod
V905		Same as V901.	mod amplr and follower
V906		Same as V903.	horizontal mod
V907		Same as V903.	horizontal mod
V908		Same as V903.	vert mod
V909		Same as V903.	vert mod
V910		ELECTRON TUBE: glass envelope; reliable minature twin diode, receiving; spec no. MIL-E-1B, type no. 5726/6AL5W.	horizontal rect
V911		Same as V910.	vert rect
V912		Same as V901.	horizontal amplr
V913		Same as V901.	vert amplr
V914		Same as V901.	horizontal amplr
V915		Same as V901.	vert amplr
V916		ELECTRON TUBE: glass envelope; electrostatic deflection and focus cathode ray tube; spec no. MIL-E-1B, type no. 5CP12.	CR indicator
V917		ELECTRON TUBE: glass envelope; full-wave high-vacuum rectifier, receiving (rugged); spec no. MIL-E-1B, type no. 5R4WGY.	pl supply rect
V918		ELECTRON TUBE: glass envelope; full-wave high-vacuum rectifier, receiving (rugged); spec no. MIL-E-1B, type no. 6X4W.	bias supply rect
V919		ELECTRON TUBE: glass envelope; voltage regulator, receiving; spec no. MIL-E-1B, type no. OA2.	V reg
V920		ELECTRON TUBE: glass envelope; voltage regulator, receiving; spec no. MIL-E-1B, type no. OA3/VR75.	V reg
V921		Same as V919.	V reg
V922		ELECTRON TUBE: glass envelope; high current, low mu, double triode, receiving; spec no. MIL-E-1B, type no. 6AS7G.	V reg
V923		Same as V903.	reg amplr
V924		ELECTRON TUBE: glass envelope; voltage reference tube, receiving; spec no. MIL-E-1B, type no. 5651.	V reg
V925		ELECTRON TUBE: glass envelope; beam power amplifier, receiving; spec no. MIL-E-1B, type no. 6L6WGB.	HV osc
V926		ELECTRON TUBE: glass envelope; high-vacuum rectifier, half-wave; spec no. MIL-E-1B, type no. 1Z2.	HV rect
V927		Same as V926.	HV rect
TB901	2	TERMINAL BOARD: natural plastic board; incl 15 lug type terminals; w/o barriers; over-all dim, 2.0 in. lg, 1.90 in. wide, 0.80 in. thick; two no. 4-40 NC-2 internal threaded mounting spacers on 1.0 in. by 1.250 in. mounting centers; marked w/ circuit symbols; Bendix Radio part/dwg no. L281706-3.	component mounting
TB902	2	TERMINAL BOARD: natural plastic board; incl 15 lug type terminals; w/o barriers; over-all dim, 2.0 in. lg, 1.90 in. wide, 0.80 in. thick; two no. 4-40 NC-2 internal threaded mounting spacers on 1.0 in. by 1.250 in. mounting centers; marked w/ circuit symbols; Bendix Radio part dwg no. L281706-1.	component mounting
TB903	2	TERMINAL BOARD: natural plastic, spec no. MIL-P-997, type GSG; incl 12 solder post type terminals; over-all dim, excluding terminals, 5.62 in. lg, 3.25 in. w, approx 1/8 in. thk; 4 mtg holes 5/32 in. dia on 4.25 in. by 2.75 in. mtg centers; marked w/ symbol designations; Bendix part/dwg no. C281701-1.	component mounting
TB904	2	TERMINAL BOARD: natural plastic, spec no. MIL-P-997, type GSG; incl 14 solder post type terminals; over-all dim, excluding terminals, 5.00 in. lg, 2.00 in. w, approx 1/8 in. thk; 4 mtg holes 0.13 in. dia on 4.50 in. by 1.50 in. mtg centers; marked w/ symbol designations; Bendix Radio part/dwg no. C281702-1.	component mounting

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
TB905	2	TERMINAL BOARD: natural plastic, spec no. MIL-P-997, type GSG; incl 8 solder post type terminals; over-all dim, excluding terminal, 3.62 in. lg, 2.00 in. w, approx 1/8 in. thk; 4 mtg holes 0.13 in. dia on 3.12 in. by 1.50 in. mtg centers; marked "R-1044", "R-1043", "R-1042", and "R-1041"; Bendix Radio part/dwg no. C281705-1.	component mounting
TB906		Not used.	
TB907		Not used.	
TB908	2	TERMINAL BOARD: natural plastic per MIL-P-997/GSG; includes 18 solder post stud type terminals; w/o barriers; over-all dim, 2.88 in. lg, 2.00 in. wide, 0.43 in. high; two 0.136 in. dia mounting holes spaced 1.440 in. c to c; marked with circuit symbol numbers; Bendix Radio part/dwg no. C281703-1.	component mounting
TB909	2	TERMINAL BOARD: natural plastic board, spec no. MIL-P-997, type GSG; incl 9 solder post type terminals; over-all dim, excluding terminals, 3.56 in. lg, 0.76 in. w, approx 1/8 in. thk; 2 mtg holes no. 4-40 in spacing posts located 2.440 in. c to c; marked w/ symbol designations; Bendix Radio part/dwg no. C281700-1.	component mounting
TB910	2	TERMINAL BOARD: natural plastic board, spec no. MIL-P-997, type GSG; incl 17 solder post type terminals; over-all dim, excluding terminals, 3.38 in. lg, 1.54 in. w, approx 1/8 in. thk; 2 mtg holes no. 4-40 in spacing posts located 2.25 in. c to c; marked w/ symbol designations; Bendix Radio part/dwg no. C281704-1.	component mounting
TB911	2	TERMINAL BOARD: natural plastic board; incl 17 solder post type terminals; over-all dim, excluding terminals and posts, 9.90 in. lg, 0.50 in. w, 1/8 in. thk; 3 mtg holes no. 4-40 in. spacing posts irregularly located; Bendix Radio part/dwg no. C281698-1.	component mounting
XF901		FUSEHOLDER: extractor post type; max electrical rating of holder, 250 v, 15 amp; accommodates 1 cartridge type fuse; over-all dim, 1-1/4 in. lg, 1/4 in. dia; black bakelite body; contact data, copper or brass, bright alloy plated, cup type; over-all dim, 2-17/64 in. max lg, 11/16 in. dia; 2 solder lug type terminals; mounts in hole 1/2 in. dia by hardware furnished; resistant to salt water; incl internal tooth lockwasher; Bussman Mfg Co. type no. HKP-JE; Bendix Radio part/dwg no. A32049.	for F901
XF902		Same as XF901.	for F902
XI902		LIGHT, PANEL: no lamp included, accommodates minature flange base lamp; clear plastic body; mounted through panel by 15/32 in. dia mtg hole, 0.188 in. max panel thickness; over-all dim, 0.960 in. lg excluding terminal, 0.660 in. dia; terminal data, 1 terminal, shell utilized as other terminal, solder post type, located axially at one end; has clear, colorless filter, lamp replaceable from front of panel; Grimes Mfr Co. part no. A5295; Bendix Radio part no. C222911-3.	for I901
XI902		Same as XI901.	for I902
XI903		Same as XI901.	for I903
XI904		LIGHT, INDICATOR: supplied w/ lens, 0.365 in. dia, green, smooth face, smooth back, clear; thread-mounted lens holder; lamp data, 1, T-1-3/4, ref dwg group 7, Fig. 5, midget flange base, ref dwg group 7, lamp not incl; brass shell w/ silver-plated finish; over-all dim, 1.20 in. lg, 0.70 in. dia; mounted through panel, 0.593 in. dia mtg hole, 0.100 in. max panel thk; lamp replaceable from front of panel; 2 terminals, 1 solder post type, 1 solder lug type grounded to shell, post type located in rear of lampholder, lug type on side of lampholder; Bendix Radio part/dwg no. C208319-3.	for I904
XI904A	4	LENS, INDICATOR LIGHT: lens data, green, 0.365 in. dia, plastic, smooth face, smooth back, clear; over-all dim, 0.72 in. lg, 0.50 in. dia; mounted by, brass holder, silver-plated; mtg data, threaded type, dim, incl lg of shank, 3/8 in. dia, 0.55 in. lg, threaded 3/8 in.-32 for 0.19 in; Bendix Radio part/dwg no. C206119-3.	p/o I904

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
XI904B	4	LIGHT, INDICATOR: supplied w/o lens, 0.36 in. dia lens accommodated; externally threaded lens holder; lamp data, MBCA ref dwg group 7, accommodates AN3140-327 lamp; minature flange base; shell data, brass, silver-plated, inclosed; over-all dim, 0.957 in. lg, 0.72 in. wide, 0.69 in. high; one 0.59 in. dia mounting hole required; accommodates 0.15 in. max thick panel; lampholder data, horizontally mounted, lamp replaceable from front of panel; 2 terminals, 1 solder lug and 1 solder post terminal, located on bottom and in back of base, post type insulated from base, lug type grounded to base; Bendix Radio part no. C206118-1.	p/o XI904
XI905		LIGHT, INDICATOR: supplied w/ lens, 0.365 in. dia, amber, smooth face, smooth back, clear; thread-mounted lens holder; 1 lamp accommodated-T-1-3/4, ref dwg group 7, Fig. 5, midget flange base, ref dwg group 7, lamp not incl; silver-plated brass shell; over-all dim, 1.20 in. lg, 0.70 in. dia; mounted through panel, 0.503 in. dia mtg hole, 0.100 in. max panel thk; lamp replaceable from front of panel; 2 terminals, 1 solder post type, 1 solder lug type, post type located in rear of lampholder, lug type on side of lampholder, 1 terminal grounded to shell; Bendix Radio part/dwg no. C208319-2.	for I905
XI905A	4	LENS, INDICATOR LIGHT: lens data, amber, 0.365 in. dia, plastic, smooth face, smooth back, clear; over-all dim, 0.72 in. lg, 0.50 in. dia; mounted by, brass holder, silver-plated; mtg data, threaded type, dim, incl lg of shank, 3/8 in. dia, 0.55 in. lg threaded 3/8 in.-32 for 0.19 in., Bendix Radio part/dwg no. C206119-2.	p/o XI905
XI905B		Same as XI904B.	p/o XI905
XI906		LIGHT, INDICATOR: supplied w/ lens, 0.365 in. dia, red, smooth face, smooth back, clear; thread-mounted lens holder; 1 lamp accommodated-T-1-3/4, ref dwg group 7, Fig. 5, midget flange base, ref dwg group 7, lamp not incl; silver-plated brass shell; over-all dim, 1.20 in. lg, 0.70 in. dia; mounted through panel, 0.593 in. dia mtg hole, 0.100 in. max panel thk; lamp replaceable from front of panel; 2 terminals, 1 solder post type located in rear of lampholder, 1 solder lug type on side of lampholder, 1 terminal grounded to shell; Bendix Radio part/dwg no. C208319-1.	for I906
XI906A	4	LENS, INDICATOR LIGHT: lens data, red, 0.365 in. dia, rd flat disc type, Rohm & Hass no. 160 plastic; over-all dim, 0.72 in. lg, 0.50 in. dia; mounted by brass holder, silver-plated; mounts by 3/8-32NEF-2 thread 0.19 in. lg on 0.55 in. lg shaft; Bendix Radio part no. C206119-1.	p/o XI906
XI906B		Same as XI904B.	p/o XI906
XI907	3	CONTACT, ELECTRICAL: p/o lampholder; beryllium copper contact, plastic insulator per MIL-P-997/GSG; contact silver-plated; over-all dim, including mounting, 1.99 in. lg, 0.805 in. wide, 0.47 in. thk; AC or DC rating, 0.22 amp, 6 v; 1 solder lug type terminal, located on contact side; contact surface located above and between mounting holes; two 0.128 in. dia holes spaced 1.586 in. c to c; Bendix Radio part/dwg no. C208174-2.	for I907
XI908		Same as XI907.	for I908
XI909		Same as XI907.	for I909
XI910		Same as XI901.	for I910
XV901		SOCKET, ELECTRON TUBE: 9 contacts, copper base alloy, silver-plated; noval; incl center shield; over-all dim, excluding terminals, 1-3/8 in. lg, 0.940 in. w, 25/32 in. high; ceramic body; mtg data, one-piece saddle mtg, mtg dim, 3/4 in. dia chassis hole required, 2 mtg holes 1/8 in. dia spaced 1-1/8 in. c to c; spec no. JAN-S-28A, type no. TS103C01.	for V901
XV902		Same as XV901.	for V902
XV903		SOCKET, ELECTRON TUBE: 7 contacts, copper base alloy, silver-plated; miniature; incl center shield; over-all dim, excluding terminals, 1-1/8 in. lg, 0.800 in. w, 25/32 in. high; ceramic body; mtg data, one-piece saddle mtg, mtd dim, 5/8 in. dia chassis hole required, 2 mtg holes 1/8 in. dia spaced 7/8 in. c to c; spec no. JAN-S-28A, type no. TS102C01.	for V903
XV904		Same as XV903.	for V904
XV905		Same as XV901.	for V905
XV906		Same as XV903.	for V906
XV907		Same as XV903.	for V907

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
XV908		Same as XV903.	for V908
XV909		Same as XV903.	for V909
XV910		Same as XV903.	for V910
XV911		Same as XV903.	for V911
XV912		Same as XV901.	for V912
XV913		Same as XV901.	for V913
XV914		Same as XV901.	for V914
XV915		Same as XV901.	for V915
XV916		SOCKET, ELECTRON TUBE: 14 contacts, phosphor bronze, silver-plated; diheptal; over-all-dim, excluding terminals, 2-7/32 in. dia, 1-1/8 in. deep; mica filled phenolic body; mtg data, retainer ring mtg, ring not incl, mtg dim, 2-5/64 in. dia chassis hole required; Cinch Mfg Corp. part no. 9453-14; Bendix Radio part/dwg no. C65510.	for V916
XV917		SOCKET, ELECTRON TUBE: 8 contacts, copper base alloy, silver-plated; octal; over-all dim, excluding terminals, 1-7/8 in. lg, 1-3/8 in. w, 11/16 in. high; type MFE; molded thermosetting plastic body; mtg data, one-piece saddle mtg, mtg dim, 1-1/8 in. dia chassis hole required, 2 mtg holes 0.156 in. ida spaced 1.500 in. c to c; spec no. JAN-S-28A, type no. TS101P01.	for V917
XV918		Same as XV903.	for V918
XV919		Same as XV903.	for V919
XV920		Same as XV917.	for V920
XV921		Same as XV903.	for V921
XV922		Same as XV917.	for V922
XV923		Same as XV903.	for V923
XV924		Same as XV903.	for V924
XV925		Same as XV917.	for V925
XV926		SOCKET, ELECTRON TUBE: 7 contacts, beryllium copper, silver-plated; miniature size; incl center shield; over-all dim, excluding terminals, 1-15/16 in. lg, 1 in. w, 1-5/32 in. high; low-loss phenolic body; mtg data, one-piece saddle mtg, mtg dim, 1 in. dia chassis hole required, 2 mtg inserts no. 6-32 spaced 1-1/2 in. c to c; rated 2000 v between contacts and insert; incl 1 in.-14 thread for shield; Eby Hugh H. Inc. part number 8290; Bendix Radio part/dwg no. C287051-1.	for V926
XV927		Same as XV926.	for V927
1100 thru 1199	6	CABINET, ELECTRICAL EQUIPMENT: shock-mounted cabinet to house INDICATOR, AZIMUTH IP-93/URD-4; aluminum, haze gray painted finish; empty; 24.25 in. lg by 21.00 in. wd by 13.75 in. h; single compartment w/ drawer slides, interlock switch, and terminal board; unit contains 4 shock-mounts; p/o /Direction Finder Set AN/URD-4; Bendix part/dwg no. OR650031-1; Naby spec MIL-D-16252.	
A1101	2	COVER, PANEL: aluminum alloy; painted Navy gray; body dim, 21.12 in. lg, 12.12 in. w, 3.50 in. high; 12 mtg holes 1/4 in.-20-symmetrically spaced in flange; Bendix Radio part/dwg no. OR288942-1.	protective cover for indicator panel
C1101		CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf ±20%; 500 v dc working; temp coefficient variable; uninsulated body; case dim, 5/16 in. w, 5/8 in. lg; 2 axial hook type terminals, 1 mtg bushing terminal, 1 term 0.24 in. lg, 1 term 0.27 in. lg, feed-through method of mtg, no. 12-28 thread for mtg; Erie Resistor Corp. type no. 357-Hi-K-12; Bendix Radio part/dwg no. C220077-1.	AC input line filter
C1102		Same as C1101.	AC input line filter
E1101		TERMINAL BOARD: molded phenolic; board w/o terminals, accommodates 20 terminals barrier type; over-all dim, excluding terminals, 12-5/16 in. lg, 11/16 in. w; 9/16 in. high; 21 mtg holes, 0.115 in. dia, countersunk 82° by 3/16 in., spaced 19/32 in. c to c; Olympic Plastics Co. part no. OP-100-20; Bendix Radio part/dwg no. A100595-20.	interconnection
E1101A		TERMINAL BOARD: molded phenolic board; includes 20 screw type terminals; barrier type; 12.312 in. lg by 0.688 in. wide by 0.562 in. high; twenty-one 0.115 in. dia mounting holes countersunk 82° by 3/16 in. and spaced 0.594 in. c to c; Olympic Plastics part no. OP-100-20 w/ terminals; Bendix Radio part/dwg no. C294284-20.	replacement for E1101

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
E1102		Same as E1101.	interconnection
E1102A		Same as E1101A.	replacement for E1102
H1101		SCREW, MACHINE: slot drive; FH, cad pl; brass, cad pl, finished; no. 10-24 NC-2; 0.724 in. lg; 0.38 in. lg thd portion; 0.302 in. dia by 0.164 in. thk head; shank grooved 0.0225 in. d by 0.080 in. wd to seat "O" ring gasket, gasket not incl; Bendix part/dwg no. A241457-1.	mounts mounting plate to cabinet (quantity of 10 required)
H1102	2	SCREW, CAPTIVE: wing head; stainless steel, passivate; 1/4-20 NC-2; 4.51 in. lg stud; 0.250 in. lg threaded portion; 1.88 in. wd by 0.94 in. high head; shank undercut to 0.180 in. dia, 1.06 in. lg; Bendix Radio dwg no. C282050-1.	mounts indicator cover to cabinet (quantity of 10 required)
H1103	3	SLIDE, DRAWER: c/o latch fastener, slide, angle plate, mtg plate and plate; approx 20 in. lg by 2 in. wd by 6.83 in. h; mts to bracket by twelve 0.213 in. dia holes in 2 rows of 6 each; telescoping type; Bendix Radio part/dwg no. L281665-1.	L.H. slide for indicator
H1104	3	SLIDE, DRAWER: c/o latch fastener, slide, angle plate, mtg plate and plate; approx 20 in. lg by 2 in. wd by 6.83 h; mts to bracket by twelve 0.213 in. dia holes in 2 rows of 6 each; telescoping type; Bendix Radio part dwg no. L281666-1.	R.H. slide for indicator
H1105		CLAMP, ELECTRICAL: aluminum alloy; melted petrolatum dipped; 1 screw type fastening device; 1-5/16 in. lg by 1-7/8 in. dia over-all; mts by 1-7/16-18 NEF-2B thd to connector shell; designed to hold material 15/16 in. dia; used as cable adapter; AN ADAPTER dwg no. AN3057-16.	for P901
H1106		CLAMP, ELECTRICAL: aluminum alloy; 2 screw typefastening devices; 1-1/8 in. lg by 1-7/16 in. dia over-all; mounts to connector plug by 1-20 internal thread; designed to hold cable 5/8 in. nominal dia; petrolatum dip; used as cable clamp; AN type no. AN3057-10.	clamp for main disconnect cable
L1101	2	COIL, RADIO FREQUENCY: 0.68 mh at 2.5 mc, 0.15 ohm max; 19 turns of no. 18 enameled copper conductor; 1 single layer winding-untapped, unshielded; phenolic form; 29/64 in. dia by 13/32 in. lg coil; 1.00 in. lg by 3/8 in. dia coil form; 2 terminals, rigid wire type, located axially; terminal mounting; coated with unthinned bakelite varnish; Hi-Q-Division, Aerovox Corp. part no. RFC-137; Bendix Radio part/dwg no. OC215350-37.	AC input line filter
L1102		Same as L1101.	AC input line filter
O1101		MOUNT, VIBRATION: sq mtg; 85-250 lb load rating; 3 in. lg by 3 in. w by 1-1/2 in. high; rubber cushion; steel, cadmium-plated sleeve w/ 3/8 in.-16 bolt hole; steel, cadmium-plated holder; 4 mtg holes 0.266 in. dia on 2-1/2 in. by 2-1/2 in. mtg centers; Barry Corp. part no. C2090-T6; Bendix Radio part/dwg no. C240591-3.	mounts CY1304
O1102		Same as O1102.	mounts CY1304
O1103		Same as O1101.	mounts CY1304
O1104		Same as O1101.	mounts CY1304
O1105	2	PACKING, PREFORMED: non-metallic synthetic compound, spec MIL-P-5516A class B; style no. 1, ref dwg group 76; non dim, 5/32 in. ID, 9/32 in. OD, 1/16 in. thk; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; spec MIL-P-5516A type no. AN6227B-2; Bendix Radio part/dwg no. L232807-2.	gasket to seal screw in matching hole (quantity of 10 required)
O1106	2	PACKING, PREFORMED: non-metallic synthetic compound, spec MIL-P-5516A class B; style no. 1, ref dwg group 76; non dim, 1/4 in. ID, 3/8 in. OD, 1/16 in. thk; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; spec MIL-P-5516A type no. AN6227B-5; Bendix Radio part/dwg no. L232807-5.	gasket to seal threaded plug in matching hole
O1107	2	GASKET: black neoprene, 40-45 durometer; 11 holes total, clearance hole 7 in. lg by 2 in. w, 10 mtg holes 7/32 in. dia; rectangular, 8 in. lg by 3 in. w by 0.062 in. thk; Bendix Radio part/dwg no. C236195-1.	seals mtg plate to cabinet
O1108	2	GASKET: Army-Navy type AN6227-4; for general purpose use; synthetic compound per spec AN-P-79, class B; single hole; annular, 11/32 in. OD, 3/16 in. ID, 1/16 in. dia cross sect; Bendix part/dwg no. L232807-4.	seals captive screw in matching hole (qty of 10 req)
O1109	2	GASKET: rubber, grade no. SC620; single hole 19.94 in. lg by 10.98 in. w; rectangular, 20.44 in. lg by 11.48 in. w by 0.139 in. thk; cylindrical cross section; Bendix Radio part/dwg no. L237409-1.	seal between apnel of receiver and cabinet

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O1110		GASKET: Army-Navy material per spec no. AN-P-79 class B, type no. AN6227-7; 3/8 in. ID, 1/2 in. OD, 1/16 in. thick; 68 durometer rating; incl colored dots identifying mfr and conformance to spec; Bendix Radio part/dwg no. L232807-7.	gasket to seal shock-mount screw in matching hole (qty of 4 req)
P901		CONNECTOR, PLUG: 37 contacts, female, rd; polarized; angle type; 90° angle; over-all dim, 3-13/32 in. lg, 2 in. w, 2-23/32 in. h; contacts electrically rated at 20 amp, 200 v dc, 150 v ac; cylindrical aluminum alloy body; cadmium-plated finish, locking type, split shell; any acceptable insert material per spec no. MIL-C-5015; 1-31/32 in. OD coupling nut w/ 1-3/4 in.-18 coupling nut thread; 1-7/16 in.-18 conduit hub thread; MIL-C-5015, type no. AN3108B-28-21S.	main disconnect
S1101		SWITCH, PUSH-PULL: single-pole, double-throw; rated at 10 amps ac, 1/2 or 1/4 amp dc, 125 or 250 v ac, 125v dc or 250 v dc; momentary action on push, locking action on pull, normally closed (on push action), locks by tension (on pull action); plastic body; over-all dim, including terminals and mounting bracket; 1/2 in. wide, 1.81 in. high, 1.88 in. deep; round metal external actuator, 1-7/8 in. lg; 3 solder lug type terminals, located 2 on the back and one on the bottom of switch case; mtd by two no. 6-32 thread tapped holes on mounting bracket 1-1/2 in. center to center; fungus resistant plunger and switch case; Micro Switch part no. 3AC3; Bendix Radio part no. C218282-1.	interlock switch
TB1101	2	MOUNTING: natural plastic; mounting data, holds 2 terminal boards with four 0.136 in. dia screw holes each and cover by means of 6 spacers; mounts by three 0.19 in. dia holes on each end; Bendix Radio part no. L280718-1, marked w/ numbers 1 thru 40.	mounts E1101, E1102 and their cover
TB1102		TERMINAL BOARD: natural plastic MIL-P-15047/NPG; 2 terminals included, screw and tab type; w/o barriers; over-all dim, 2.07 in. lg, 0.75 in. wide, 0.75 in. thick; two 0.161 in. dia mounting holes spaced 1.688 in. c to c; Bendix Radio part no. C281248-1.	power line input
W1101		Part of cabinet wiring. Listed for reference only.	
1201-1299		CABLE ASSEMBLIES.	
H1201		CLAMP, ELECTRICAL: aluminum alloy; cadmium-plated finish; 1 screw type fastening device; 1-3/16 in. lg, 1-9/16 in. dia over-all; mounts by clamping on cable; designed to hold cable 3/4 in. min dia; utilized as adapter between AN type connector and cable; MIL spec no. MIL-C-5015, spec type no. AN3057-12.	for P1209
H1202		Same as H1201.	for P1210
H1203		ADAPTER, ELECTRICAL CONDUIT: connects electrical connector to solid conduit; aluminum alloy; straight type; both ends internally threaded, designed for AN connector sizes no. 24 and no. 28, intended for electrical connectors, straight thread, 1-7/16 in.-18 thread size; both ends externally threaded, designed for 3/4 in. conduit, intended for solid conduit, straight thread, 1-3/16 in.-18 thread size; 7/8 in. lg over-all; ANA Standard AN3055-28-12.	for P1209
H1204		Same as H1203.	for P1210
H1205	5	CLAMP, ELECTRICAL: aluminum alloy; 1 clamp type fastening device; 11/16 in. lg, 1-3/8 in. wide, 1-3/8 in. high over-all; mounted by one 0.199 in. dia hole; designed to hold material 1/2 in. max dia; lightweight adelite cushion; Huntington Precision Products Div. of Adel Precision Products Corp. part no. 758-9; used as cable clamp; Bendix Radio part/dwg no. C241399-9.	for P1207
H1206		Same as H1205.	for P1208

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
H1207	5	CLAMP, ELECTRICAL: aluminum alloy; 1 clamp type fastening device; 17/32 in. lg, 3/4 in. wide, 1-1/32 in. high over-all dim; mounted by one 0.199 in. dia hole; designed to hold material 3/8 in. max dia; lightweight adelite cushion; Huntington Precision Products Div. of Adel Precision Products Corp. part no. 758-6; used as cable clamp; Bendix Radio part/dwg no. C241399-6.	for P1205
H1208		Same as H1207.	for P1206
H1209	2	COVER, ELECTRICAL CONNECTOR: aluminum alloy; Navy gray finish; 4.61 in. lg, 1.03 in. wide, 1.65 in. high over-all; mounted by two 4-40 thread tapped inserts, 3.95 in. c to c; marked w/ P1207; includes two 4-40 thread tapped self clinching inserts and one 8-32 thread tapped self clinching insert; used as protective cover for electrical connector; Bendix Radio part/dwg no. C205857-4.	for P1207
H1210	2	COVER, ELECTRICAL CONNECTOR: aluminum alloy; Navy gray finish; over-all dim, 4.64 in. lg by 1.42 in. wide by 1.50 in. high; two 0.189 in. dia mounting holes 4.27 in. c to c; marked w/ CX-2357/U (3 ft 11 in.) and circuit symbol; used as protective cover for electrical connector; Bendix Radio part/dwg no. C207625-5.	for P1208
H1211	2	COVER, ELECTRICAL CONNECTOR: aluminum alloy; Navy gray finish; over-all dim, 3.34 in. lg by 1.42 in. wide by 1.18 in. high; two 0.189 in. dia mounting holes 2.96 in. c to c; marked w/ CX-2356/U (3 ft 10 in.) and circuit symbol; used as protective cover for electrical connector; Bendix Radio part/dwg no. C207625-6.	for P1206
H1212	2	COVER, ELECTRICAL CONNECTOR: aluminum alloy; Navy gray finish; 3.30 in. lg, 1.03 in. wide; 1.00 in. high over-all; mounted by two 4-40 thread tapped inserts 2.64 in. c to c; marked w/ P1205; includes two 4-40 thread tapped self clinching inserts and one 8-32 thread tapped self clinching insert; used as protective cover for electrical connector; Bendix Radio part/dwg no. C205857-3.	for P1205
P1201		CONNECTOR, PLUG: 1 male, rd contact; straight type; over-all dim, approx 1-1/64 in. lg, approx 9/16 in. dia; contacts electrically rated at 500 v peak; rf connector, 50 ohms nom impedance, non-constant frequency impedance characteristic; cylindrical shape, brass, silver-plated finish; locking type body; teflon insert; 0.217 in. dia max cable opening; approx 9/16 in. OD female bayonet coupling sleeve; weatherproof; MIL-C-3608, type no. UG-88/U.	part of W1209
P1202		CONNECTOR, RECEPTACLE: 1 female rd contact; straight type; approx 1-1/16 in. lg; 9/16 in. dia over-all; contacts electrically rated 500 v peak; rf connector, 50 ohms nom impedance, non-constant frequency impedance characteristic; cylindrical shape, brass, silver-plated finish; locking type body; teflon insert; 0.217 in. dia max cable opening; mounts by bayonet studs; weatherproof; MIL-C-3608, type no. UG-89/U.	part of W1209
P1203		Same as P1201.	part of W1210
P1204		Same as P1202.	part of W1210
P1205		CONNECTOR, RECEPTACLE: 20 female tubular contacts; polarized; straight type; over-all dim, excluding protruding terminals, 3.343 in. lg, 1.312 in. w, 0.890 in. high; contacts electrically rated 5 amp; rectangular shape body, molded black plastic, spec no. JAN-P-14 type no. MTS-E-1; 2 holes for mtg, no. 8-32 thread, 0.25 in. deep, spaced 2.964 in. c to c; Cannon Electric Development Co. part no. 17968-23; Bendix Radio Div of Bendix Aviation Corp. part/dwg no. L223212-7.	part of W1206
P1206		CONNECTOR, PLUG: 20 male flat contacts; polarized; straight type; over-all dim, excluding protruding terminals, 3.344 in. lg, 0.625 in. w, 1.067 in. high; contacts electrically rated 5 amp; rectangular shape body, molded black plastic, spec no. JAN-P-14 type no. MTS-E-1; 2 holes for mtg, 0.136 in. dia, 0.380 in. lg, spaced 2.644 in. c to c; Cannon Electric Development Co. part no. 17968-19; Bendix Radio Div of Bendix Aviation Corp part/dwg no. L223227.	part of W1206

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
P1207		CONNECTOR, PLUG: 32 male flat contacts; polarized; straight type; over-all dim, excluding protruding terminals, 4.625 in. lg, 0.625 in. w, 1.067 in. high; contacts electrically rated 5 amp; rectangular shape body; black molded plastic, spec no. JAN-P-14 type no. MTS-E-1; 2 holes for mtg, 0.136 in. dia, 0.380 in. lg, spaced 3.952 in. c to c; Cannon Electric Development Co. part no. 17968-18; Bendix Radio Div of Bendix Aviation Corp .part/dwg no. L223229.	part of W1207
P1208		CONNECTOR, RECEPTACLE: 32 female tubular contacts; polarized; straight type; over-all dim, excluding protruding terminals, 4.652 in. lg, 1.312 in. w, 0.890 in. high; contacts electrically rated 5 amp; rectangular shape body, black molded plastic, spec no. JAN-P-14 type no. MTS-E-1; 2 holes for mtg, no. 8-32 thread, 0.25 in. deep, spaced 4.272 in. c to c; Cannon Electric Development Co. part no. 17968-9; Bendix Radio Div of Bendix Aviation Corp. part/dwg no. L223234.	part of W1207
P1209		CONNECTOR, PLUG: 37 male rd contacts; polarized; straight type; 2-5/16 in. lg by 1-31/32 in. dia over-all; contacts electrically rated 20 amp, 200 v dc, 150 v ac; cylindrical shape body, aluminum alloy, cadmium-plated finish, locking type; any acceptable insert material per spec no. MIL-C-5015; 1-3/4 in.-18 thread for mating w/ coupling nut, one 1-7/16 in.-18 conduit thread; MIL-C-5015 type no. AN3101A-28-21P.	part of W1206
P1210		CONNECTOR, PLUG: 37 female rd contacts; polarized; straight type; over-all dim, 2-5/16 in. lg, 1-31/32 in. dia; contacts electrically rated at 20 amp, 200 v dc, 150 v ac; cylindrical shape, aluminum alloy, cadmium-plated finish; locking type body; any acceptable insert material per spec no. MIL-C-5015; 1-31/32 in. OD coupling nut w/ 1-3/4 in.-18 coupling nut thread, 1-7/16 in.-18 conduit hub thread; MIL-C-5015, type no. AN3106A-28-21S.	part of W1206
W1201 thru W1205		Not used.	
W1206	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 34 stranded conductors, no. 18 AWG, synthetic resin insulation; 2 stranded conductors, no. 16 AWG, synthetic resin insulation; plastic tubing outer jacket; 2 tinned copper braid shields around pair of no. 16 AWG conductors which connects to terminal S of each connector; cable is approx 43.25 in. lg including terminations; first end terminations, 1 connector MIL type AN3106A-28-21S, 1 adapter MIL type AN3055-28-12, 1 adapter AN type AN3057-12, second end terminations, 1 connector MIL type AN3101A-28-21P, 1 adapter MIL type AN3055-28-12, 1 adapter AN type AN3057-12; conductor stranding, 16 strands max, no. 30 AWG; 26 strands max, no. 30 AWG; Bendix Radio part/dwg no. L212938-1; AN CABLE ASSEMBLY SPECIAL PURPOSE, ELECTRICAL type no. CX-2358/U (3 ft 8 in.)	for testing receiver, power supply or indicator
W1206A		WIRE: no. 18 white, ref no. BTW1000C9, for W1206, 111 ft required for each cable assy.	
W1206B		WIRE: shielded pair, Rowe Cable Corp. no. 16-49-02, Bendix part no. C222191-1, 3.5 ft required for each cable assy.	
W1207	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 30 stranded conductors, no. 18 AWG, synthetic resin insulation; 1 stranded conductor, no. 22 AWG, synthinol with outer jacket of lacquered viscose rayon; plastic tubing outer jacket; shield around one no. 22 AWG conductor which connects to pin 1 of each connector, tinned copper braid; cable is approx 46.69 in. lg including terminations; first end terminations, 1 connector Bendix no. L223234, 1 cover Bendix part/dwg no. C207625-5, 1 cable clamp Bendix part/dwg no. C241399-8, second end terminations, 1 connector Bendix part/dwg no. L223229, 1 cover Bendix part/dwg no. C205857-4, 1 cable clamp Bendix part/dwg no. C241399-8, conductor stranding, 16 strands min. no. 30 AWG, 7 strands min. no. 30 AWG, Bendix Radio Bendix part/dwg no. L212781-2; AN CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL type no. CX-2357/U (3 ft 11 in).	for testing Monitor and RF Head subsections of Receiver
W1207A		WIRE: no. 18 white, ref no. BTW1000C9, for W1207, 121 ft required for each assy.	

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
W1207B		WIRE: shielded, blue, Bendix part no. BSW1001-A-6, Bendix dwg no. C222109-6, for W1207, 4.5 ft required for each assy.	
W1208	1	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: 16 stranded conductors, no. 22 AWG, synthetic resin insulation; 3 stranded conductors, no. 22 AWG, synthinol with outer jacket of lacquered viscose rayon; plastic tubing outer jacket; shield around each of three no. 22 conductors, which connects to pin 1 of each connector, tinned copper braid; cable is approx 45.52 in. lg including terminations; first end terminations, 1 connector Bendix part/dwg no. L223212-7, 1 cover Bendix part/dwg no. C207625-6, 1 cable clamp Bendix part/dwg no. C241399-6; second end terminations, 1 connector Bendix part/dwg no. L223227-1, 1 cover Bendix part/dwg no. C205857-3, 1 cable clamp Bendix part/dwg no. C241399-6; 7 strands min no. 30 AWG conductors; Bendix Radio Bendix part/dwg no. L212780-2; AN CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-2356/U (3 ft 10 in.).	for testing IF and Audio sub-section of Receiver
W1208A		WIRE: no. 22 white, Bendix no. BTW1000A9, for W1208, 67 ft required for each cable assy.	
W1208B		WIRE: shielded, blue, Bendix part no. BSW1001-A-6, Bendix dwg no. C222109-6 for W1208, 13.5 ft required for each cable assy.	
W1209	1	CABLE ASSEMBLY, RADIO FREQUENCY: cable data, AN Radio Frequency Cable RC-55/U, coaxial, 53.5 ohms characteristic impedance, 1900 v rms max operating voltage, single conductor, solid, no. 20 AWG, copper wire, plain finish, polyethylene dielectric, 0.116 in. OD of dielectric; single copper, tinned shield; round shape; 0.206 in. dia of cross sectional area; polyethylene outer covering; assembly is 18 in. lg over-all, assembly is 16 in. lg less terminations; one MIL UG-88/U connector located on one end, one MIL UG-89/U connector located on other end; Bendix Radio part/dwg no. L212698-22; AN CABLE ASSEMBLY, RADIO FREQUENCY type no. CG-1068/U (1 ft 6 in.).	for testing IF Unit when removed from receiver
W1209A		CABLE, RADIO FREQUENCY: coaxial; 53.5 ohms nom impedance, 28.5 mmf nom capacitance per ft, 1900 v rms max operating voltage, 5000 v rms max dielectric test voltage; 1 solid copper, no. 20 AWG inner conductor; polyethylene dielectrics double braid, copper, tinned outer conductor, 0.176 in. OD; synthetic resin jacket; 0.206 in. dia over-all; per spec JAN-C-17A; JAN type no. RG-55/U.	p/o W1209
W1210	1	CABLE ASSEMBLY, RADIO FREQUENCY: cable data, AN Radio Frequency cable RG-55/U, coaxial, 53.5 ohms characteristic impedance, 1900 v rms max operating voltage, single conductor, solid, no. 20 AWG, copper wire, plain finish, polyethylene dielectric, 0.116 in. OD of dielectric, single copper tinned shield; round shape; 0.206 in. dia of cross sectional area; polyethylene outer covering; assembly is 36 in. lg over-all, assembly is 34 in. lg less terminations; one MIL UG-88/U connector located on one end, one MIL UG-89/U connector located on other end; Bendix Radio part/dwg no. L212698-23; AN CABLE ASSEMBLY, RADIO FREQUENCY type no. CG-1068/U (3 ft 0 in.).	for testing Receiver when removed from cabinet
W1210A		Same as W1209A.	p/o W1210
1301-1399		TEST SET, RADIO: provides means for measurement of voltage and current at 11 contact test receptacle and tube socket; indicates normal reading at selected spot by means of predetermined deflection of meter needle, sensitivity 10,000 ohms per volt; 0.051 aluminum alloy case, 8.63 in. lg, 7.14 in. wd, 3.67 in. high; portable; meter panel has integral cable with 11 contact plug to mate with test receptacle on Monitor sub-chassis of RECEIVER, RADIO R-353/URD-4; c/o Meter, Probe, Cabinet, Cover; Bendix Radio part/dwg no. L200399-2, AN TEST SET, RADIO type no. TS-777/URD-4.	
A1301	2	COVER, VOLTMETER: exterior surfaces finished w/ gray wrinkle, interior finished w/ gray enamel; 8.726 in. lg by 6.88 in. wide by 0.867 in. high over-all; mounts by 2 hinges 3.70 in. c to c on one side and by fastener on other side; stenciled TS-777/URD-4 on outside and a calibration chart on inside; used as protective cover for voltmeter; Bendix Radio part no. L206394-2.	panel cover

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
C1301		CAPACITOR, FIXED, PAPER DIELECTRIC: 1 section; 100,000 uuf ±20%; 400 v dc working; designed for rf application, rated 1 amp from 1 to 10 mc, at 40°C ambient temp; black molded case per spec JAN-P-14; case dim, 1-15/32 in. wide, 13/32 in. deep, 49/64 in. high; 2 wire-lead type terminal located axially; impregnated per spec no. JAN-C-91; no internal ground connections; terminal-mounted; spec JAN-C-91, type no. CN43E104M.	coupling
C1302		Same as C1301.	coupling
C1303		CAPACITOR, FIXED, MICA DIELECTRIC: 470 uuf ±20%; 300 v dc working; −500 to 500 parts per million per deg C temp coefficient; molded low-loss bakelite case; case dim, 1/2 in. w, 11/64 in. deep, 9/32 in. high; 2 wire-lead type terminals located axially; terminal-mounted Electro Motive Mfg Co. part no. VCM15B471M 300 WV; Bendix Radio part/dwg no. OC220125-39.	filter for CR1303
E1301	1	PROD, TEST: 7 pin tube base type connector on one end, telephone type plug other end; black plastic handle, 4.25 in. lg; cable attached by soldering to solder post terminals one end, screw terminals other end; contained in PROD are-1 Capacitor, 1 CRYSTAL UNIT, 2 Resistors; 3 feet lg, 1.00 dia over-all; Bendix Radio part no. L280422-1.	voltage analysis probe c/o CR1303, C1303, R1310, R1311, P1301, E1301A
E1301A		CABLE, SPECIAL PURPOSE, ELECTRICAL: 2 tinned copper conductors, no. 22 AWG, stranded conductors w/ 7 strands, 0.01 in. dia, laytex insulation w/ rayon braid, one conductor is white, one is black; covering materials from insulated conductors out-rayon braid, copper braid shield, rayon braid, rubber jacket; 150 v dc rated working voltage; rd cross section; 0.276 in. dia over-all; U. S. Rubber Co. part no. BMP020335; Bendix no. C222157-1.	for E1301
E1302		Not used.	
E1303		CAP, ELECTRICAL: black plastic spec no. JAN-P-14, type MTS-E-1; body dim, 1.00 in. lg, 1.00 in. dia; mounts by 7/8 in.-14 male thread located on 1 end; incl axial through hole 0.31 in. dia; Bendix no. A241800.	seals probe cover to cable
E1304		KNOB: round black, molded, bakelite; attachment data, 1/4 in. dia shaft accommodated, 1/2 in. deep shaft hole, 2 set screws; brass insert; arrow marking; over-all dim, 7/8 in. dia, 19/32 in. thick; Bendix no. C60187-2.	knob for S1301
H1301		FASTENER, SPRING LOCK: spring loaded stud type w/ knurled head; for cover; steel, cadmium-plated w/ pale iridescent iridite finish; 0.903 in. lg by 0.500 in. dia; requires 0.281 in. dia mtg hole, retained by stainless steel split washer furnished unassembled; Camloc Fastener Corp. part no. 2600-4; Bendix no. C241777-4.	holds panel to case
H1302		Same as H1301.	holds panel to case
H1303		Same as H1301.	holds panel to case
J1301		JACK, TELEPHONE: 3-conductor plug w/ 0.2065 in. dia, 1.093 in. lg shank accommodated; contact arrangement J7 ref dwg group 4; over-all dim, 1.922 in. lg, 0.830 in. w, 1.266 in. deep; single 3/8 in. dia mtg hole; mtg accessories c/o 1 nickel-plated hexagon nut, 1 nickel-plated washer; Switchcraft Inc. part no. 3J-1015; Bendix no. C287076-1.	receptacle for probe
J1302		JACK, TELEPHONE: 2-conductor plug w/ 0.250 in. dia, 1.218 in. lg shank accommodated; contact arrangement J1, ref dwg group 4; over-all dim, excluding terminals 1.00 in. lg, 0.75 in. dia; single 3/8 in. dia mtg hole; mtg accessories c/o 1 hexagon nut 1 brass, nickel-plated washer; Switchcraft Inc. part no. 2J-1050A; Bendix no. C223203-1.	audio
M1301		AMMETER: panel mounted; circuit application DC; scale data 0 to 100 cw inscription range, graduated in increments of 20, 10 scale divisions to each; round steel case style no. 15, MBCA ref dwg group 27; dim data, flange size 2.695 in. dia max, 2.21 in. dia of body, 1.60 in. depth of body from mounting surface, excluding terminals; accuracy ±4% of full scale reading; 1000 ohms ±2% internal resistance; magnetically shielded; black scale markings and pointer w/ white background; meter is self contained; three 0.125 in. dia mounting holes spaced 120° apart on 1.220 in. radius; 2 glass bead solder lug type terminals; 0.65 in. lg; hermetically sealed; Marion Elec Instrument Co. type no. HM-2; Bendix no. OC222798-5.	meter

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
O1301	2	COVER, ELECTRICAL CONNECTOR: phosphor bronze; nickel-plated finish; over-all dim, 1.12 in. lg, 0.77 in. dia; friction mounted on mating part; furnished with 6 in. length of chain and aluminum alloy guard ring to anchor cover to handle of test prod; guard for pin contacts of test prod; Bendix no. C203682-1.	probe pin guard
O1302		COVER, TEST PROD: black plastic; body dim, 4.25 in. lg, 1.00 in. OD; mounts by 7/8 in.-14 internal thd at ea end; resistant to moisture; Bendix no. A290105.	probe cover
O1303		SHELL, ELECTRICAL CONNECTOR: black plastic per spec JAN-P-14/MTS-E-1 (GP); cylindrical shape; over-all dim, 2.62 in. lg, 1.250 in. OD; mounts to connector by 1.125-12NF-2 internal thread; Bendix no. C245441.	connector cover
P1301		PLUG, TELEPHONE: 3 conductors; single shank 0.2065 in. dia; 1.093 in. lg; plastic, black, tubular, 1/2 in. dia; 3-7/32 in. over-all lg of plug; for lug or eyelet cable terminations; "PJ-068" stamped on shell; spec JAN-P-642 type no. PJ-068; Bendix no. A109756.	probe telephone plug
P1302		Not used.	
P1303		CONNECTOR, PLUG: 11 male rd contacts; polarized; straight type; length, excluding protruding contacts and terminals, 1.060 in. lg by 1.25 in. dia; contacts not rated electrically; cylindrical shaped body, black plastic per JAN-P-14/MTS-E-1 (GP), unfinished; has 1.125 in.-12 NF-2 thread for attaching handle, item is part of integral test cable used with TS-777/URD-4; Bendix Radio part/dwg no. L287065-1.	probe pickup plug
P1304		PROBE SUBASSEMBLY: principal parts c/o 7 pin connector, mounting strip w/4 stud terminals, mounting clamp; over-all dim, excluding connector contacts 4.50 in. lg, 1.00 in. dia; mounts on end of test cables by 7/8-14 NC-2 thread; Bendix Radio part/dwg no. L206854-3.	pick-up connector
R1301		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 27,000 ohms total resistance ±10%; 1/2 w power dissipation, rated at 40°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11, JAN type no. RC20BF273K.	multiplier
R1302		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 1 meg total resistance ±10%; 1/2 w power dissipation, rated at 40°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11, JAN type no. RC20BF105K.	multiplier
R1303		RESISTOR, FIXED, FILM: similar to body style no. 110, ref dwg group 2; 1.5 meg total resistance ±1%; 1/2 w power dissipation, derated to zero power at 120°C; carbon film; temp coefficient data, approx 0.042% of total resistance per °C, from 0°C to +100°C; body dim, 9/16 in. lg, 0.135 in. dia, 5/32 in. dia over-all; protective lacquer coating, resistant to humidity; 2 axial wire-lead type terminals; International Resistance Co. type DCC; Bendix no. BRN10AB1504F.	multiplier
R1304		RESISTOR, FIXED, FILM: similar to body style no. 110, ref dwg group 2; 1000 ohms total resistance ±1%; 1/2 w power dissipation, derated to zero power at 120°C; carbon film; temp coefficient data, approx 0.03% of total resistance per °C, from 0°C to +100°C; body dim, 9/16 in. lg, 0.135 in. dia 5/32 in. dia over-all; protective lacquer coating, resistant to humidity; 2 axial wire-lead type terminals; International Resistance Co. type DCC; Bendix no. BRN10AB1001F.	shunt
R1305		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 10,000 ohms total resistance ±10%; 1/2 w power dissipation, rated at 40°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11; JAN type no. RC20BF103K.	bridge

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
R1306		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 120 ohms total resistance ±10%; 1/2 w power dissipation, rated at 40°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11; JAN type no. RC20BF121K.	bridge
R1307		Same as R1306.	bridge
R1308		Same as R1305.	bridge
R1309		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 150,000 ohms total resistance ±10%; 1/2 w power dissipation rated at 40°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11; JAN type no. RC20BF154K.	multiplier
R1310		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 39 ohms total resistance ±10%; 2 w power dissipation, rated at 70°C ambient temp; resistance temp characteristic F; body dim, 0.750 in. lg, 0.370 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11; JAN type no. RC42GF390K.	tube heater substitute
R1311		RESISTOR, FIXED, COMPOSITION: body style no. 14, ref dwg group 2; 4,700 ohms total resistance ±10%; 1/2 w power dissipation rated at 40°C ambient temp; resistance temp characteristic F; body dim, 0.406 in. lg, 0.175 in. OD; insulated, resistant to humidity; 2 wire-lead type terminals; spec JAN-R-11; JAN type no. RC20BF472K.	diode load
S1301		SWITCH, ROTARY: 2 sections; 12 positions, max number of switching positions possible; contact arrange "non-pileup" type contacts, 2 moving contacts, 24 fixed contacts, 2 poles, 11 throws; non-shorting, spring silver alloy contacts; phenolic section insulation; physical dim, 1.12 in. lg, 1.250 in. w, 1.312 in. high; bushing mounted 3/8 in. dia, 32 threads per in., 0.375 in. lg; shaft flatted type, 0.750 in. lg, 0.250 in. dia; solder lug terminals; incl lockwasher and nut, marked w/ Bendix dwg number, non-turn device located on 0.531 in. radius at 3 o'clock; Oak Mfg Co. part no. 54953-F2; Bendix no. C218385-51.	meter selector, includes S1301A and S1301B
S1302		SWITCH, SENSITIVE: contact arrangement spst normally open; electrical ratings 115 v ac max, 15 amp for nom load; cadmium-plated brass switch body; dim excluding actuator, bushing, and terminals 29/32 in. nom dia, 5/8 in. high; actuator data plunger type, 9/16 in. from mtg surface to free position, 0.016 in. max movement differential, 0.040 in. to 0.070 in. pre-travel, 0.007 in. min over-travel; 10-15 oz operating force; momentary action; 2 solder lug type terminals; mounts by 4.69 in.-32 by 3/8 in. lg mtg bushing w/ 2 mtg nuts furnished; Acro Switch Div of Acro Mfg Co. part no. 3NO5-5P; Bendix no. C218169-1.	bridge balance sensitivity control
W1301	4	PROD, TEST: 11 contact, male, tube base type connector; handle black plastic 2.62 in. lg; cable is soldered to pin type contacts; over-all dim, 2.776 in. lg, 1.250 in. dia; includes 11 conductor cable approximately 38.00 in. lg; Bendix no. L203677-1.	multiplier
W1301A		CABLE, SPECIAL PURPOSE, ELECTRICAL: conductor data, 11 tinned copper, no. 22 AWG, 7 no. 30 AWG strands each, latex insulation w/ rayon braid, color coded black, white, red, green, orange, blue, white w/ black tracer, red w/ black tracer, green w/ black tracer, orange w/ black tracer, blue w/black tracer, materials in sequence from insulated conductors out rayon-binder, rubber compound jacket; rd cross section; 0.413 in. max over-all dia; Bendix Radio spec BP-465; Bendix no. C222132-1.	for use in W1301
CR1301		CRYSTAL UNIT, RECTIFYING: germanium type; 0.40 amperes maximum continuous forward current, 0.125 amperes maximum peak forward current, 75 volts peak inverse voltage; dim of body, excluding terminals, 1/2 in. lg, 1/4 in. dia; terminal-mounted; 2 wire-lead type terminals, located axially one at each end; spec JAN-1-A; JAN type no. 1N69.	rectifier
CR1302		Same as CR1301.	rectifier
CR1303		Same as CR1301.	rectifier for E1301

TABLE 8-3. MAINTENANCE PARTS LIST—(Continued)

REF. DESIG.	NOTES	NAME AND DESCRIPTION	LOCATION FUNCTION
TB1301	2	TERMINAL BOARD: natural plastic board spec no. MIL-P-997 type GSG; incl 21 solder post type terminals; over-all dim, excluding terminals, 3.88 in. lg, 3.42 in. w, approx 1/8 in. thk; 4 mtg holes 0.161 in. dia on 3.50 in. by 2.76 in. mtg centers; stencilled-"R1301" through "R1309", "C1301", "C1302", "CR1301", "CR1302"; Bendix no. C280405-1.	component mounting board
1401-1499		MAST: two section construction; aluminum; haze gray paint plus undercoating; 9.28 in. dia at base, 9.28 in. dia at top, including flange, 20 feet high; flange mounted; not portable; principal parts c/o guy plate, mounting flange; Bendix Radio part/dwg no. N650004-3; provides support for Direction Finder Antenna; AN MAST AB-198/U; Navy spec MIL-D16252.	
H1401	1	HARDWARE KIT: consists of assembly hardware for AB-198/U, MAST; 32 lockwashers, 32 flat washers, 16 hex nuts, 16 hex head screws, 4 eye bolts, and bag; cloth bag w/ tab, bag 8 in. long by 6 in. wd over-all; Bendix part/dwg no. A248074-1.	for mast assembly
H1401A	2	WASHER, LOCK: phosphor bronze; cadmium-plated finish; split helical ring locking feature style no. 9, ref dwg group 201; 0.688 in. max OD by 0.382 in. min ID by 0.094 in. material thk; Bendix part/dwg no. HC799P24-M.	p/o H1401 (qty of 32 required)
H1401B	2	WASHER, FLAT: rd; brass; rd hole, 0.391 in. dia; 7/8 in. OD; 0.064 in. thick; Bendix part/dwg no. OA17030-20.	p/o H1401 (qty of 32 required)
H1401C	5	NUT, PLAIN, HEXAGON: stainless steel (303) passivate finish; finished w/ flat bearing surface; 3/8-16, NC, class 2 fit thread; 5/8 in. max width across flats, 1/4 in. over-all height; 30° chamfer outside surface; Anti-Corrosive Metal Products Co. Inc. per Bendix dwg no. A18288-14; Bendix part/dwg no. A18288-14.	p/o H1401
H1401D	2	BOLT, MACHINE: stainless steel (18-8); passivate finish; head data, finished, hex, dim, section A, MBCA ref dwg group 29; 0.243 in. max, 0.5625 in. max; thread data, 3/8 in. nom OD; 16 threads per in., NC, class 2 fit, 1.00 in. lg thread; 1.75 in. nom lg, MBCA ref dwg group 29; Bendix part/dwg no. HSP935R-36.	p/o H1401 (qty of 8 required)
H1401E	2	BOLT, EYE: steel, galvanized finish; closed eye, style 38b, section C, ref dwg group 29; 3/8 in. OD thread, 16 threads per in., NC, class 2 fit, 4.5 in. min lg, LH thread; 5.64 in. from threaded end to furtherest point inside eye, 4.665 in. length of shank; J. H. Williams & Co. per Bendix part/dwg no. C241572-18.	p/o H1401 (qty of 4 required)
H1401F	2	BOLT, MACHINE: stainless steel (18-8); passivate finish; finished; hex head, 0.243 in. max lg by 0.5625 in. max wd across flats; has 1.0 in. lg threaded portion 3/8 in.-16 NC, class 2 fit; 4.50 in. nom length; Bendix part/dwg no. HSP935R-12.	p/o H1401 (qty of 8 required)
H1401G	2	BAG: for hardware items; cloth; 8 in. lg by 6 in. wd bag w/ 3.75 in. lg by 3 in. wd tab; draw-string fastening; bag constructed; 1 compartment; tab marked w/ contents; Felco Bag & Burlap Co.; Bendix part/dwg no. C249053-1.	for H1401A thru H1401F

TABLE 8-4 STOCK NUMBER INDENTIFICATION

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
101 thru 199	F16-A-45190-5801	2A264-514
A101		2A3393A1-184
A102		2A2496-104
A103	N-16-M-155249-781	2A2496-103
A104		2A290B-8-16
A105		2A781-7
A106		3H175-6
A107		2Z9057-119
A108	N16-A-70501-1097	2A290B-8-15
B101	N17-M-55294-7166	3H3000A08-5
C103	N16-C-50717-5944	3DB6-74
C104	N16-C-45773-7507	3DA100-1043
E101	N17-B-86638-3535	3H525G-13
E104	N17-C-78145-4241	2Z3194-122
E105	N17-C-61201-1001	3C1074-52
E106		6Z7598-25
E107		6L3401-16-24
E108	N16-C-600701-187	2Z3262-100
E109	N17-M-12774-1611	6Z6974-28
E110		3H2507-224
E111		3H2507-223
E112	N17-C-200636-699	2A387-.6-6
E114	N16-A-70501-1094	2A290B-8-11
E115	N16-A-70501-1079	2A290B-8-10
E120	N16-R-653001-142	2Z7858-471
E121		3G380-1
E123		3G100-377
E125		3G385-202
E129	N17-R-76392-5501	2Z7598-196
E130	N17-C-67447-4042	2Z308-216
E131	N17-C-67444-5090	2Z7390-27B
G101	N17-G-47976-1053	3H2440-14.4
H101	N16-M-61127-4446	2Z1239-189
H102	N17-C-78.535-345	2Z2642-714
H103		2Z2642.979
H104		6Z7598-34
J101	N17-C-67729-2433	2Z308-271
J102	N17-C-72273-4339	2Z3075-54
J103	N17-C-73600-1903	2Z3036-21
K101	N17-S-41969-1566	2Z7598-187
L101	N16-C-71596-4351	3C1084C-69
L105		6C171-3
O101		6Z7465-60
O103		2Z4866.410
O104		2Z4866.351
O105		2Z4867.925
O106		2Z4867.924
O107		6Z7465-58
O108		6Z7465-59
O109	N77-B-111-02010-8444	3H305-311
O110	N77-B-120-02532-8444	3H305-312
O111	N17-C-98379-2601	2Z3295-256
O112	N17-C-98378-4596	2Z3295-212
O113		6L2502-16-36
O118		6L3402-16-44
O119	N17-C-200875-661	2Z1612
O120	N17-C-200877-861	2Z1612.8
O122		2Z3351-628
O123	N17-S-46860-7985	2Z8878-474
P101A	N17-C-71414-1801	2Z7390-536
P101B	N17-C-71422-3137	2Z7390-154
P102	N17-C-70621-4339	2Z3034-40
P103	N17-C-71312-1603	2Z3077-27
R101	N16-R-72889-3537	3Z6008B2-26
T101	N16-A-13601-1012	2Z3265B-4
W101		2Z10008-209
TB101	*N17-B-78038-4120	3Z770-14.100
200 thru 699	F16-R-31680-9601	2C4180-353
		2X4571-7
B201		3H3100A01-35
B201A	N17-M-59443-2561	2Z4878-1149
B201B	N16-G-431218-211	
C201	N16-C-29713-6603	3D9330-25
C202	N16-C-32646-6808	3K3547221
C203	N16-C-18914-4801	3DA2.500-46
C204	N16-C-30119-5130	3D9470-37
C205	*N16-C-16525-2573	3D9047-29
C206	N16-C-25102-6281	3D9005-116
C208	N16-C-58140-3127	3D9007-VE89
C210	N16-C-63213-3377	3D9070VE4
C211	N16-C-27191-7230	3D9033-35
C212	N16-C-18177-7701	3D9470-64
C214	N16-C-26025-8210	3D9010-154
C215	N16-C-27587-4230	3D9047-49
C216	N16-C-41623-2974	3DA6-108
C219	N16-C-31095-6335	3DA1-388
C222	*N16-C-33622-5588	3K3510321
C224	N16-C-58031-8824	3D9004VD4
C226	N16-C-15949-1925	3D9012-67
C234	N16-C-40105-5311	3DA2-211
C235	N16-C-44109-2015	3DA47-46
C238	N16-C-32831-3608	3K3556221
C251	N16-C-16661-1291	3DA1-393
C258	N16-C-28388-5877	3D9091-17
C261	N16-C-26020-7691	3D9010-240
C262	N16-C-26447-1772	3D9015-159
C276	N16-C-27766-7541	3D9056-34
E201		2C4571-12
E202		2C5611-29
E203		3Z12073-65
E206		3Z12101-15.5
E207	N16-S-36341-1011	2Z3804.393
E208	N17-T-28255-3281	3Z12101-15.4
E209	N17-I-49497-2902	3G100-353
E210		2Z8304.287
E211	N16-S-34520-3862	2Z8304.57
E218	N16-R-94402-1495	2Z8066-10
E222	N16-S-83701-1002	2Z7090.664
E226		3Z9903A-16.8
E227		2C5611-27

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
E228		2Z3876.201
E229		2C4571-6
E230	N17-T-28255-3250	3Z12101-15.2
E231	N16-S-34434-5501	2Z8304.430
E232	N16-R-33591-1404	2C4157-9
H201		2Z7258.145
H202		6L4770-48.81S
H204		6L3658-32-5-3
J201	N17-C-72811-2237	2Z7390-535
J203	N17-C-73108-2575	*2Z7390-625A
J204	N16-H-73136-4100	2Z8681.20
K201	N17-R-65219-8468	2Z7587-333
K202	N17-E-32201-1133	2Z2866-18
K203	N17-E-32201-1134	2Z4029-2
L201	N16-C-74539-8741	3C323-192C
L202	N16-C-76281-5509	3C1084Z-48
L203		3C1084C-73
L204		3C1084C-72
L211	N16-C-76215-2661	3C1084Z-53
L215	N16-C-72556-4628	3C323-192P
L217	N16-C-72164-8391	3C336-155
N203		2Z3723-503
O201	N17-G-44977-6831	3H2242
O202	G77-B-115-319-2000	2Z581-104
O204		2C4571-4
O205		2Z7857-74
O206		2Z7858-347
O207	G77-B-115-00209-2004	3H305-310
O213	N16-G-431858-731	2Z4878C-53
O214	N16-G-500001-587	2Z4875-624
O215	N16-G-431378-881	2Z4877-30
O216	N16-G-431858-432	2Z4878-1195
O218	N16-G-413286-866	2Z4877-31
O219	N16-G-413286-766	2Z4877-15
O220	N16-G-413286-759	2Z4877-16
O221	N16-G-413286-868	2Z4872-432
O222	N16-G-413286-781	2Z4877-17
O224	N17-S-46793-1002	2Z8877.250
O227	N16-R-651091-309	2Z7858-137
O228	N17-R-651091-125	2Z7858-460
O232		2A3171.1-27
O234		2Z7858-461
O236		2Z4875-653
O237		2Z4875-655
O238		2Z4875-654
O241	N16-G-500001-574	2Z4875-382
O242	N16-G-500001-573	2Z4875-380
O243	N16-G-500001-564	2Z4875-623
O244	N77-B-111-00902-8444	3H305-314
O245		2Z8203-896
P201	N17-C-71408-5333	2Z7390-88
P603	N17-C-73649-6966	2Z3046.51
R201	N16-R-50975-811	3RC20BF105K
R202	N16-R-50066-816	3RC20GF332K
R203	N16-R-49940-811	3RC20BF122K
R204	N16-R-49922-730	3RC20GF102K
R205	N16-R-50201-818	3RC20GF682K
R206	N16-R-50337-243	3RC30GF153K
R208	N16-R-50093-816	3RC20GF392K
R210	N16-R-49967-760	3RC20GF152K
R211	N16-R-50552-811	3RC20BF683K
R213	N16-R-50633-811	3RC20BF104K
R214	N16-R-50282-725	3RC20GF103K
R215	N16-R-50373-238	3RC30GF223K
R216	N16-R-50094-238	3RC30GF392K
R217	N16-R-50480-811	3RC20BF473K
R220	N16-R-50040-233	3RC30GF272K
R221	N16-R-50634-234	3RC30GF104K
R222	N16-R-50399-813	3RC20GF273K
R224	N16-R-49661-818	3RC20GF221K
R225	N16-R-50202-516	3RC42GF682K
R226	N16-R-66085-3846	3RW25509
R229	N16-R-49688-811	3RC20BF271K
R233	N16-R-50310-238	3RC30GF123K
R235	N16-R-49922-811	3RC20BF102K
R236	N16-R-50336-811	3RC20BF153K
R237	N16-R-49625-818	3RC20GF151K
R238	N16-R-50282-811	3RC20BF103K
R239	N16-R-49986-511	3RC42GF182K
R244	N16-R-50714-811	3RC20BF224K
R246	N16-R-51020-818	3RC20GF155K
S202	N17-S-58917-2729	3Z9823-19.8
S203	N17-S-91897-8974	3Z9825-62.796
V201	N16-T-75654	2J5654/6AK5W
V202	N16-T-75670	2J5670
V206	N16-T-56295	2J6F4
V209	N16-T-56201	2J6AS6
Z201	N17-T-68139-1021	2Z9643.521
Z202	N17-T-68139-4915	2Z9643.510
Z204	N17-S-50962-6865	3Z1891-12.25
TB201		3Z770-23.14
TB202		3Z770-8.169
TB203		3Z770-9.57
TB204		3Z770-2.217
XV201	N16-S-62603-6716	2Z8677.241
XV202	N16-S-64063-6714	2Z8679.38
XV206	N16-S-62646-6801	2Z8677.259
XV207	N16-S-62646-6795	2Z8677.258
XV209	N16-S-62603-6700	2Z8677.99
301 thru 399		2C4571-1
C304	N16-C-27766-7541	3D9056-34
C305	N16-C-28980-1914	3D9150-91
C306	N16-C-42762-8965	3DA10-412
C307	N16-C-26601-1443	3D9018-47
C308	N16-C-26020-7691	3D9010-240
C309	N16-C-54808-7795	3DA25-35
C338	N16-C-27582-1755	3D9047-51
C347	N16-C-30119-5130	3D9470-37
C349	N16-C-29375-7986	3D9220-29
C355	N16-C-32651-9288	3K3547224

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
C356	N16-C-54677-8101	3DB2-253
C357	N16-C-43525-6273	3DA30-86
C358	N16-C-31913-4044	3K302222-4
C361	N16-C-33279-6023	3K352221
C362	N16-C-41623-2974	3DA6-108
C364	N16-C-40105-5311	3DA2-211
C378	N16-C-28558-1537	3D9100-270
E301	N17-C-805285-101	2Z2712.173
E302		2Z8304.287
E306		2Z8304.275
E307	N16-S-34520-3862	2Z8104.57
E315	N17-I-49497-2902	3G100-353
E316	N17-T-28255-3281	3Z12101-15.4
E317		2Z7259-81
E318	N16-R-33591-1396	2C4571-8
H302		2Z7090.791
H303		6L4770-61.81F
J301	N17-C-73108-1267	2Z7390-290
J302	N16-H-73136-4100	2Z8681.20
L318	N16-C-72422-2752	3C336-157
O301		2Z8877.402
O302	N16-R-651091-309	2Z7858-137
P301	N17-C-71408-5333	2Z7390-88
R301	N16-R-50480-811	3RC20BF473K
P604	N17-C-73617-3451	2Z3040-15
R302	N16-R-49922-811	3RC20BF102K
R303	N16-R-50418-233	3RC30GF333K
R304	N16-R-50714-811	3RC20BF224K
R305	N16-R-49940-811	3RC20BF122K
R306	N16-R-50094-238	3RC30GF392K
R307	N16-R-50975-811	3RC20BF105K
R308	N16-R-49661-811	3RC20BF221K
R313	N16-R-50822-811	3RC20BF474K
R314	N16-R-49769-811	3RC20BF471K
R316	N16-R-50354-811	3RC20BF183K
R318	N16-R-50516-818	3RC20GF563K
R320	N16-R-73122-4551	3Z6627-45
R323	N16-R-51065-811	3RC20BF225K
R324	N16-R-49688-746	3RC20GF271K
R325	N16-R-50444-811	3RC20BF393K
R327	N16-R-50858-811	3RC20BF564K
R329	N16-R-50786-811	3RC20BF394K
R331	N16-R-50588-811	3RC20BF823K
R332	N16-R-50399-813	3RC20GF273K
R339	N16-R-50399-811	3RC20BF273K
R340	N16-R-50741-811	3RC20BF274K
R341	N16-R-65974-5966	3RW23703
R344	N16-R-50012-0811	3RC20BF222K
R345	N16-R-50552-818	3RC20GF683K
R347	N16-R-73246-3441	3Z6733-52
R350	N16-R-50201-818	3RC20GF682K
R352	N16-R-50336-815	3RC20GF153K
R353	N16-R-50373-238	3RC30GF223K
R354	N16-R-50166-238	3RC30GF562K
R355	N16-R-49625-0811	3RC20BF151K
R556	N16-R-50337-243	3RC30GF153K
R359	N16-R-73097-6551	3Z6612-90
R360	N16-R-50012-816	3RC20GF222K
R361	N16-R-50696-818	3RC20GF184K
R363	N16-R-49769-799	3RC20GF471K
R368	N16-R-49580-0811	3RC20BF101K
R372	N16-R-50516-811	3RC20BF563K
R374	N16-R-73209-1083	3Z6715-96
T301	N17-T-64956-1305	2Z9632.829
V301	N16-T-56201	2J6AS6
V306	N16-T-75726	2J5726/6AL5W
V309	N16-T-75670	2J5670
V312	N16-T-75686	2J5686
Y301	N16-C-97567-8781	2X209-12517.8
Z301	N17-T-68139-4915	2Z9643.510
Z302	N17-T-67794-7514	2Z9642.163
Z304	N17-T-67794-7805	2Z9642.153
Z305	N17-T-67794-7835	2Z9642.152
Z306	N17-T-67794-7751	2Z9642.154
Z307	N17-T-65518-7330	2Z9632.832
TB301		3Z770-8.161
TB302		3Z770-33.5
XV301	N16-S-62603-6700	2Z8677.99
XV309	N16-S-64063-6714	2Z8679.38
XY301	N16-S-54287-5051	2Z8761-60
401 thru 599		2C4571-3
B401	N17-M-59443-2561	3H3100A01-33
C401	N16-C-30119-5130	3D9470-37
C402	N16-C-28547-8660	3D9100-263
C403	N16-C-54808-7795	3DA25-35
C405	N16-C-28204-9457	3D9082-31
C406	N16-C-16149-1215	3D9022-40
C410	N16-C-26447-1772	3D9015-159
C411	N16-C-27180-6223	3D9033-36
C412	N16-C-27756-5650	3D9056-35
C413	N16-C-28388-5877	3D9091-17
C414	N16-C-28811-6590	3D9130-22
C415	N16-C-29260-1390	3D9200-108
C416	N16-C-29655-7393	3D9300-65
C417	N16-C-30103-8386	3D9470-32
C418	N16-C-29892-9975	3D9390-19
C420	N16-C-58403-1346	3D9013VE13
C421	N16-C-27835-6790	3D9062-13
C443	N16-C-26020-7691	3D9010-240
C447	N16-C-28563-4091	3D9100-287
C449	NC-16-27125-6143	3D9030-64
C469	N16-27075-3571	3D9027-46
C474	N16-C-43535-3080	3DA30-109
C479	N16-C-42762-8965	3DA10-412
C496	N16-C-40105-5311	3DA2-211
C501	N16-C-41623-2974	3DA6-108
E401	N16-C-95404-3521	2Z3418-54
E402	N16-C-95423-8380	6Z7422-12
E403	N16-C-95457-2261	2Z6897-12
E405	N16-S-34520-3862	2Z8304.57
E409		2Z8304.287
E416	N17-T-28218-3901	3Z12101-22.1
E417	N17-T-28255-3281	3Z12101-15.4
E425	N17-I-59406-6721	3Z12101-15.6
E428	N16-R-33591-1385	2C4571-2

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
E430	N16-R-33591-1384	2Z3418-54-2
E431		2Z7259-81
E432	N16-R-33591-1401	2C4571-5
H401		6L4770-79.81S
H405	N42-P-73920-445	6L3906-7
H410	N42-P-73918-750	6L3900-6
J401	N17-C-73108-1267	2Z7390-290
J402	N16-H-73136-4100	2Z8681.20
K401	N17-R-65219-7831	2Z7590-352
K403	N17-R-65219-7821	2Z7590-341
K404	N17-R-64679-6842	2Z7586-191
L401	N16-C-76443-2153	3C1084Z-49
L402	N16-C-76678-7155	3C1084Z-50
L404	N16-C-72304-6403	3C336-153
L412	N16-C-76233-4839	3C1084C-74
L415	N16-C-74539-8741	3C323-192C
L424	N16-C-72497-7789	3C336-154
L426	N16-C-72435-4635	3C323-192M
L438	N16-C-72422-2752	3C336-157
L448	N16-C-75072-3788	3C1084-68
O401	N16-R-651091-309	2Z7858-137
O405	G77-B-115-00209-2004	3H305-310
O416	N16-G-431615-811	2Z4878-1155
O419	N16-G-432025-551	2Z4878-1151
O420	N16-G-500001-566	2Z4875-363
O421	N16-G-500001-567	2Z4875-362
O422	N16-G-500001-565	2Z4875-364
O423	N16-G-432095-334	2Z4875-1280
O427		2Z4878-1149
O429	N17-A-25801-1086	3Z65-7
O432	N16-R-33591-1397	2Z2866-20
O434	N16-R-33591-1398	2C4571-11
O435	N16-A-700001-285	2Z380-96
O439	N17-C-98373-7863	2Z3295-269
P401	N17-C-71408-5333	2Z7390-88
P603	N17-C-73649-6966	2Z3046.51
R401	N16-R-49661-811	3RC20BF221K
R402	N16-R-50633-811	3RC20BF104K
R404	N16-R-49922-811	3RC20BF102K
R405	N16-R50066-811	3RC20BF332K
R407	N16-R-50822-811	3RC20BF474K
R408	N16-R-49769-811	3RC20BF471K
R409	N16-R-49922-730	3RC20GF102K
R414	N16-R-50786-811	3RC20BF394K
R421	N16-R-50418-233	3RC30GF333K
R424	N16-R-50067-233	3RC30GF332K
R425	N16-R-50714-811	3RC20BF224K
R428	N16-R-49706-811	3RC20BF331K
R429	N16-R-50373-238	3RC30GF223K
R438	N16-R-50975-811	3RC20BF105K
R443	N16-R-50480-811	3RC20BF473K
R444	N16-R-50551-111	3RC10BF683J
R446	N16-R-50651-811	3RC20BF124K
R447	N16-R-50759-0811	3RC20BF334K
R451	N16-R-51091-438	3RC20GF275J
R452	N16-R-50695-436	3RC20GF184J
R453	N16-R-49967-760	3RC20GF152K
R457	N16-R-68334-4871	3Z68334-4871
R458	N16-R-49770-233	3RC30GF471
R463	N16-R-83941-7067	3Z6020-272
R466-1	N16-R-49237-443	3RC20GF100J
R468	N16-R-51280-438	3RC20GF825J
R469	N16-R-51244-438	3RC20GF685J
S403	N17-S-66623-8987	
S404	N17-S-65462-9015	3Z9825-65.74
S405	N17-S-65467-4953	3Z9825-65.79
V401	N16-T-75670	2J5670
V404	N16-T-75654	2J5654/6AK5W
V405	N16-T-56201	2J6AS6
V409	N16-T-75726	2J5726/6AL5W
Y401	N16-C-96672-3337	2X248-833.333
Y402	N16-C-96960-1051	2X231-3400
Y403	N16-C-96948-9336	2X231-3233.333
Y404	N16-C-96993-4051	2X231-3900
Y405	N16-C-96982-3336	2X231-3733.333
Y406	N16-C-96354-5171	2X231-3566.667
Y407	N16-C-96981-2171	2X231-3716.667
Y408	N16-C-96979-9951	2X231-3700
Y409	N16-C-96978-9337	2X231-3683.333
Y410	N16-C-96977-8171	2X231-3666.667
Y411	N16-C-96976-6066	2X231-3650
Y412	N16-C-96986-7051	2X231-3800
Y413	N16-C-96985-6337	2X231-3783.333
Y414	N16-C-96984-5171	2X231-3766.667
Y415	N16-C-96983-2001	2X231-3750
Y417	N16-C-97078-8126	2X231-5181.25
Y418	N16-C-97078-2793	2X231-5172.917
Z401	N17-T-81436-6941	2Z9646.56
Z402	N17-T-81452-3134	2Z9650-11
Z403	N17-T-81457-7925	2Z964.58
Z404	N17-T-81457-6701	2Z9646.70
Z405	N17-T-81453-9814	2Z9646.59
Z406	N17-T-81442-3827	2Z9646.57
Z407	N17-T-67200-8781	2Z9643.509
HR407	N17-H-60021-7201	6Z5054-97
HR408	N17-H-60034-2001	6Z5054-96
TB401		3Z770-26.61
TB402		3Z770-7.55
TB404		3Z770-12.176
TB405		3Z770-10.142
XE401	N16-S-63583-9191	2Z8670.75
XV401	N16-S-64063-6714	2Z8679.38
XV404	N16-S-62603-6700	2Z8677.99
601 thru 699	N16-R-33591-1399	2C4571-10
C601	N16-C-42762-8965	3DA10-412
C607	N16-C-30119-5130	3D9470-37
C610	N16-C-44285-5258	3DA50-304
C612	N16-C-42765-4822	3DA10-654
C619	N16-C-54535-9808	3DA250-346
C633	N16-C-41623-2974	3DA6-108
C640	N16-C-18657-8801	3DA1-326
E601		3Z12073-65.3
E602		3G100-352
H601		6L774-21.8K1
H603		6Z1723-1

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
H606	N42-C-13390-2025	2A3178.3
H609	N16-C-300798-621	2Z5042-4
H610	N43-S-91062-1030	6L18210-11.8K
H611		6L50108-4
H612		6L72724-02
H613		6L3108-32-10
I601	N17-L-6491-220	6Z6828-4
J601	N17-C-67728-3321	2Z7390-414
J602	N17-C-72651-1781	2Z3046.49
J603	N17-C-73345-7623	2Z3082-136
J604	N17-C-73324-2637	2Z3081-19
J606	N17-C-73269-2307	2Z3070-58
K601	N17-R-65624-2521	2Z7590-337
K605	N17-R-72903-8601	2Z7598-192
L601	N16-C-72497-7789	3C336-154
L607	N16-C-75072-3788	3C1084C-68
L609	N16-C-72422-2752	3C336-157
L643	N16-C-72164-8391	3C336-155
N601	N16-D-46338-3975	3Z3723-673
N602	N16-D-46338-3978	2Z3723-668
N603	N16-K-700354-694	2Z5824.403
N604	N16-D-46338-3981	2Z3723-667
N606		2Z7258.144
O601		2Z4867.1077
O602	N17-S-150263-101	2Z80885-1.34
P601B	N17-C-71408-5333	2Z7390-88
P606	N17-C-73553-1338	2Z3029-37
R601	N16-R-50238-518	3RC42GF822K
R602	*N16-R-65430-5276	3RW14708
R603	*N16-R-65178-7096	3RW10528
R604	N16-R-87852-5611	3Z7450-213
R605	N16-R-89672-3720	3RA1203
R607	N16-R-50417-823	3RC20GF333K
R608-1	N16-R-49237-443	3RC20GF100F
R610	N16-R-83941-7067	3Z6020-272
R613	N16-R-50552-818	3RC20GF683K
R614	N16-R-49580-0766	3RC20GF101K
R615	N16-R-50282-725	3RC20GF103K
S601	N17-S-65278-9001	3Z9825-65.76
S602	N17-S-69294-5276	
S603	N17-S-59454-6131	3Z9825-65.77
S604	N17-S-60605-1001	
W601		
W601A		
TB601		3Z770-54.3
TB602		3Z770-30.30
XI601	N17-L-76848-8437	
XI601A	N17-L-250602-159	2Z6125-319
XI601B		
XY605	N16-S-63515-4151	2Z8670.33
701 thru 799	F16-P-68315-6051	3H4497-556
C701	N16-C-51881-9090	3DB10-233
C702	N16-C-43147-6607	3DA20-210
C703	N16-C-45805-6260	3DA100-838
E701	N16-C-34520-3864	2Z8304.57
E702	N17-T-28255-3281	3Z12101-15.4
F701	N17-F-16302-150	3Z2606.3
F703	G17-F-16302-100	3Z2602.26
F704	N17-F-14310-345	3Z2588.2
F705	N17-F-14305-80	3Z2610.35
H701	N16-C-300798-8666	2Z2642.170
H703	N16-C-300798-452	2Z2636-28
H704		6L4774-21.8K1
H705		2Z3351-588
H706	N16-M-61148-1050	2Z1239.189
I701	N16-L-1102-11	2Z5877-58
J701	N17-C-72651-1781	2Z3046.49
J702	N17-J-39652-5801	2Z5598-78
J703	N16-H-73136-4100	2Z8681.20
K701	N17-R-65471-9065	2Z7590-300
K702	N17-R-65098-8711	2Z7599A-507
L701	N16-R-29091-6716	3C575N-7
L702	N16-R-28896-6523	3C575N-6
O701		3Z1723-18.1
O702		2Z4867.1076
R701	N16-R-50696-818	3RC20GF184K
R702	N16-R-50822-761	3RC20GF474K
R703	N16-R-50651-818	3RC20GF124K
R704	N16-R-66252-3516	3RW28562
R705	N16-R-49347-486	3RC42GF270K
R707	N16-R-50714-818	3RC20GF224K
R708	N16-R-50553-233	3RC30GF683K
R709	N16-R-87752-5560	3Z7425-145
R711	N16-R-73271-1311	3Z6750-136
S701	N17-S-74692-4506	3Z9863-52P
S702	N17-S-69566-4166	3Z9823-19.4
T701	N17-T-74242-7643	2Z9621B-87
T702	N17-T-70700-9832	2Z9621B-88
T703	N17-T-71459-1436	2Z9621B-86
V701	N16-T-55446	2J5R4WGY
V702	N16-T-53050	2J0C3
V703	N16-T-56201	2J6AS6
V704	N16-T-56202	2J6AS7G
CR701	N17-R-51121-1601	3H4860-305
TB701	N17-B-77585-4531	3Z770-3.119
TB702		3Z770-18.90
XF701	N17-F-74267-5401	3Z3275
XI701		2Z5991-391
XI701A	N17-L-250701-118	2Z6125-311
XI701B		2Z5991-422
XV701	N16-S-63515-4151	2Z8670.33
XV703	N16-S-62603-6700	2Z8677.99
801 thru 899	N16-C-10639-8315	6F300-890
B801	N17-F-1067-2105	3H1931-34
B801A		6Z3806-3
B801B		3H3000-250
C801	N16-C-48841-9628	3DB1-233
C804	N16-C-18657-8801	3DA1-326
E801	N17-B-78141-9336	3Z770-20.80
E801A	N17-B-78141-9324	3Z770-20.114
H801		2Z8558-23
H802		2Z8558-22
H803		2Z8558-21
H804		2Z8558-20
H805	N17-C-781724-735	2Z2636-2
H807	N17-C-781444-634	2ZK2636-2

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
J801	N17-C-67729-2433	2Z308-271
L801		3C1084Z-51
O801	N17-C-794001-230	6Z3856-90
O803	N17-C-794001-221	6Z3856-86
O804	N17-M-75466-6746	2Z8405-206
O810		2Z4867.925
O811		2Z4867.1071
O812		2Z4867-1078
O813		2Z4867.1173
P601A	N17-C-71408-5333	2Z7390-88
P602	N17-C-70087-2252	2Z3082-139
P702	N17-C-70375-1781	2Z3082-137
P801A	N17-C-71422-3137	2Z7390-154
P801B	N17-C-71414-1801	2Z7390-536
S801	N17-S-57413-5989	3Z9815-17.3
S803	N17-S-69888-4376	3Z9695-8.28
TB801		3Z772-8
TB802		3Z770-2.179
W801		3E4001.366
901 thru 1099	F16-I-48411-1009	2C1565A-93
C901	N16-C-18787-8121	3DA1.500-72
C902	N16-C-54460-4310	3DA100-673
C903	N16-C-41623-2974	3DA6-108
C904	N16-C-18659-7775	3DA1-285
C905	N16-C-59823-8209	3D252
C906	N16-C-28547-8660	3D9100-263
C913	N16-C-18179-8022	3D9470-38
C919	N16-C-16532-2514	3D9047-21
C923	N16-C-16802-4160	
C951	N16-C-15637-9001	3D9005-156
C955	N16-C-48808-9150	3DB1-195
C957	N16-C-49981-9993	3DB4-282
C961	N16-C-45805-6260	3DA100-838
C962	N16-C-54363-1595	3DA20-287
C963	N16-C-45801-9515	3DA100-718
C964	N16-C-46371-9550	3DA250-650
C965	N16-C-32831-3608	3K3556221
C967	N16-C-45801-9592	3DA100-972
C968	N16-C-29903-4076	3K2039121
C970	N16-C-26843-5550	3D9022-49
C971	N16-C-30659-4312	*3K5575133
C974	N16-C-52992-7087	3DA100-735
C976	N16-C-18657-8801	3DA1-326
E901	N17-C-84094-1101	2Z3197A-128
E902	N17-T-28255-3281	3Z12101-15.4
E903		2Z7259-81
E912		3Z12101-9.14
E920	N17-I-69154-6198	3G3501-04.1
E926	N17-I-69187-7101	3G3502-20
E927	N16-S-34520-3862	2Z8304.57
E936	N16-S-34557-8351	2Z8304.276
E937	N16-S-34607-6039	2Z8304.277
E940		2Z8304.287
E947	*N17-L-62678-6570	2Z2712.430
E948	N17-L-62678-6570	2Z2712.429
E949	N17-C-813511-101	2Z2712.170
E950	N17-I-49516-6701	3G100-352
E951	N16-K-700266-893	2Z5822-444
E956	N16-K-702551-568	2Z5824.281
E957	N16-K-700277-452	2Z5824.280
E959	N16-D-46348-7401	2Z3723-204
E963	N17-C-201672-147	2Z1607-187
E966	N16-S-34579-7224	2Z8308-38
E968	N17-T-28218-3901	3Z12101-22.1
E970		3G100-459
F901	N17-F-14305-40	3Z2602.19
H901	N16-C-300798-452	2Z2636-28
H903	N16-C-300442-625	2Z2642.315
H902	N16-C-300798-866	2Z2642.170
H905		6L4764-7.9S
H906	N16-T-751655-903	6R56530
H907		6L4774-15.81S
H908	N16-M-60909-7976	2Z1250.174
H916		6Z1650-30
H918	N43-S-4799-9828	6L4770-13.10S1
H921		
H928	N16-M-60958-3571	2Z1239.165
H929		6L50108-4
H932		6L72724-02
H935		6L3108-32-10
I901	N17-L-6543-175	2Z5877-12
I904	N17-L-6491-220	6Z6828-4
J901	N17-C-72651-1781	2Z3046.49
J902	N17-C-73269-2307	2Z3070-58
J903	N17-C-73107-8918	2Z5574.1
J904	N17-J-39652-5801	2Z5598-78
J905	N16-H-73136-4100	2Z8681.20
L901	N16-C-74913-7844	3C1084Z-52
L907	N16-R-29104-9989	3C546-20
L908	N16-C-74241-8532	3C1084C-71
L909	N16-C-74539-8741	3C323-192C
L910	N16-C-72556-4628	3C323-192P
L911	N16-C-75072-3788	3C1084C-68
N901		2Z3740-437
N902	N16-S-117101-926	2Z3723-587
N903	N16-P-500001-224	2Z7258.141
N904	N16-D-46338-1066	2Z3723-562
N907	N16-D-46338-1058	2Z3723-561
N908	N16-D-46337-9621	2Z3723-563
O901	N17-C-98378-4596	2Z3295-212
O903	N17-C-945002-541	3Z1723-8.1
O904	N17-S-46668-8261	2Z8877.364
O906		2Z8203-847
O907		2Z8204-180
O908	N17-S-150263-101	6Z8093-8
O915	N17-C-945002-357	3Z172318.1
O918		2Z8878-433
O919	N17-S-46710-5651	2Z8877.344
O920	N17-S-46714-9901	2Z8877.345
O922	G77-B-115-00409-2004	3H305-260
O924	N17-S-46763-2134	2Z8879-425
O925	N16-D-351021-116	2Z3806.27
O926	N16-C-125001-444	2Z1600-97
O927	G77-B-999-75020-100	3H165
O928	N16-D-901161-199	2S4300-4-1
P902	N17-C-73553-1338	2Z3029-37

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
P903	N17-C-78540-7777	2Z7249-5
R901	N16-R-88012-5786	3Z7480-246
R902	N16-R-88412-5591	3Z7499-2E5.29
R903	N16-R-49940-816	3RC20GF122K
R904	N16-R-50282-725	3RC20GF103K
R905	N16-R-50039-721	3RC20GF272K
R906	N16-R-50443-438	3RC20GF393J
R908	N16-R-50093-816	3RC20GF392K
R909	N16-R-50372-833	3RC20GF223K
R910	N16-R-50092-438	3RC20GF392J
R911	N16-R-50632-416	3RC20GF104J
R912	N16-R-73221-5813	3Z6722-59
R914	N16-R-87682-5661	3Z7410-252
R915	N16-R-50633-785	3RC20GF104K
R916	N16-R-73127-4144	3Z6633-54
R917	N16-R-73278-5451	3Z6756-23
R918	N16-R-73310-7351	3Z6801A1-8
R919	N16-R-49967-760	3RC20GF152K
R920	N16-R-88182-5937	3Z7498-50.229
R921	N16-R-50858-818	3RC20GF564K
R923	N16-R-49985-813	3RC20GF182K
R924	N16-R-50479-440	3RC20GF473K
R925	N16-R-49940-811	3RC20GF122K
R926	N16-R-51092-818	3RC20GF275K
R932	N16-R-50129-0815	3RC20GF823K
R933	N16-R-50012-816	3RC20GF222K
R935	N16-R-49921-349	3RC20GF102J
R941	N16-R-51109-438	3RC20GF335J
R942	N16-R-50479-435	3RC20GF473J
R943	N16-R-49877-818	3RC20GF821K
R944	N16-R-87192-5510	3Z7250-110
R955	N16-R-50587-435	3RC20GF823J
R959	N16-R-73271-1311	3Z6750-136
R963	N16-R-73308-2876	3Z6801-156
R968	N16-R-73216-5762	3Z6718-36
R971	N16-R-51172-438	3RC20GF475J
R976	N16-R-73109-9481	3Z6618-76
R981	N16-R-50678-818	3RC20GF154K
R995	N16-R-73176-9226	3Z6682-36
R996	N16-R-73080-3663	3Z6582-29
R1001	N16-R-73209-1083	3Z6715-96
R1005	N16-R-83941-7067	3Z6020-272
R1008	N16-R-87852-5660	3Z7450-214
R1009	N16-R-49687-321	3RC20GF271J
R1013	N16-R-87752-5570	3Z7425-147
R1014	N16-R-50353-443	3RC20GF183J
R1016	N16-R-50893-435	3RC20GF684J
R1023	N16-R-50237-815	3RC20GF822K
R1028	N16-R-49769-799	3RC20GF471K
R1029	N16-R-49688-746	3RC20GF271K
R1031	N16-R-49643-818	3RC20GF181K
R1032	N16-R-49706-761	3RC20GF331K
R1036	N16-R-68284-4366	3Z5992D4-2
R1038	N16-R-68278-8466	3Z5991E5-11
R1040	N16-R-87192-5490	3Z7250-113
R1041	N16-R-50399-131	3RC42GF273J
R1046	N16-R-49347-238	3RC30GF270K
R1048	N16-R-50589-233	3RC30GF823K
R1050	N16-R-66141-3006	3RW26720
R1051	N16-R-50696-818	3RC20GF184K
R1052	N16-R-50822-761	3RC20GF474K
R1053	N16-R-50741-818	3RC20GF274K
R1054	N16-R-50696-108	3RC42GF184J
R1055	N16-R-87752-5560	3Z7425-145
R1056	N16-R-50587-758	3RC30GF823J
R1057	N16-R-50517-238	3RC30GF563K
R1058	N16-R-50614-945	3RC42GF913J
R1059	N16-R-88009-4620	3Z7480-245
R1060	N16-R-50551-401	3RC20GF683J
R1061	N16-R-88182-5987	3Z7498-50.335
R1062	N16-R-50758-754	3RC30GF334J
R1066	N16-R-88182-5977	3Z7498-50.334
R1067	N16-R-50785-754	3RC30GF394J
R1068	N16-R-50130-241	3RC30GF472K
R1070	N16-R-50651-818	3RC20GF124K
R1071	N16-R-50481-233	3RC30GF473K
R1072	N16-R-50445-233	3RC30GF393K
R1073	N16-R-50652-233	3RC30GF124K
R1076	N16-R-50893-758	3RC30GF684J
R1080	N16-R-51136-701	3RC30GF395J
R1089	N16-R-49364-818	3RC20GF330K
R1090	N16-R-50713-380	3RC20GF224J
S901	N17-S-69063-4401	3Z9823-15.28
S902	N17-S-55212-7121	3Z9580-1.18
S903	N17-S-69294-5276	
S904		2Z3197A-131
S904A	N17-C-81995-4036	2Z3197A-130
S904B	N17-C-84325-6751	2Z3197A-18
S904C	N17-C-81995-3926	2Z3197A-20
S904D	N17-C-81990-4316	2Z3197A-21
S904E	N16-S-21019-9811	2Z8202-74
S905	N17-S-59454-6131	3Z9825-65.77
S906	N17-S-60605-1001	3Z9825-36.39
S909	N17-S-65278-9001	3Z9825-65.76
S910	N17-S-65078-2957	3Z9825-65.78
S911	N17-S-70412-4406	3Z9863-42A
T901	N17-T-61589-5001	2Z9631.518
T902	N17-T-74321-8201	2Z9621-458
T903	N17-T-81301-5095	3Z9650-38
V901	N16-T-75670	2J5670
V903	N16-T-56201	2J6AS6
V910	N16-T-75726	2J5726/6AL5W
V916	N16-T-55138	2J5CP12
V917	N16-T-55446	2J5R4WGY
V918	N16-T-56840-50	2J6X4W
V919	N16-T-52001	2J0A2
V920	N16-T-53030	2J0A3
V922	N16-T-56202	2J6AS7G
V924	N16-T-75651	2J5651
V925	N16-T-56464-10	2J6L6WGB
V926	N16-T-51990	2J1Z2
TB901		3Z770-15.50
TB902		3Z770-15.51
TB903		3Z770-12.66
TB904		3Z770-14.109
TB905		3Z770-8.162

TABLE 8-4 STOCK NUMBER IDENTIFICATION (Continued)

KEY & SUB-KEY DESIG.	STANDARD NAVY	SIGNAL CORP
TB908		3Z770-18.113
TB909		3Z770-9.54
TB910		3Z770-17.36
TB911		3Z770-17.38
XF901	N17-F-74266-9215	3Z3282-19.1
XI901	N17-L-77658-2248	2Z5991-438
XI904	N17-L-76764-9749	2Z5991-389
XI904A		2Z6125-318
XI904B		2Z5991-460
XI905	N17-L-76680-1067	2Z5991-394
XI905A		2Z6125-310
XI906	N17-L-76848-8442	2Z5991-390
XI906A		2Z6125-319
XI907		2Z3193-332
XV901	N16-S-64063-6714	2Z8679.38
XV903	N16-S-62603-6700	2Z8677.99
XV916	N16-S-64378-3782	2Z8684-14
XV917	N16-S-63515-4151	2Z8670.33
XV926	N16-S-62601-8925	2Z8677.135
1100 thru 1199	N16-C-10644-2021	6F300-1304
A1101		2Z3351-627
C1101	N16-C-18657-8801	3DA1-326
E1101	N17-B-78141-9336	3Z770-20.80
H1101	N43-S-79146-3150	6L4770-6.3C
H1102		6L17504-4S
H1103	N16-S-470001-167	2Z8558-25
H1104	N16-S-470001-168	2Z8558-24
H1105	N17-C-781724-735	2Z2636-2
H1106	N17-C-781444-634	2ZK2636-2
L1101		3C1084Z-51
O1101	N17-M-75466-6746	2Z8405-206
O1105		6L54002-19
O1106		2Z4866.351
O1107		2Z4867.922
O1108		
O1109		2Z4867.923
O1110	N33-P-1560-150	2Z4866.651
P901	N17-C-70087-2252	2Z3082-139
S1101	N17-S-57413-5989	3Z9815-17.3
TB1101		2Z6900-140
TB1102	N17-B-77536-2810	3Z770-2.179
1201 thru 1299		
H1201	N17-C-781535-345	2Z2642.714
H1203	N17-F-42382-2404	2Z307-43
H1205		2Z2646.190
H1207		2Z2642.1152
H1209		2Z8276-138
H1210		2Z8276-153
H1211		2Z8276-152
H1212		2Z8276-139
P1201	N17-C-71408-5333	2Z7390-88
P1202	N17-C-71108-5314	2Z7390-89
P1205	N17-C-73324-2637	2Z3081-19
P1206	N17-C-73617-3451	2Z3040-15
P1207	N17-C-73649-6966	2Z3046.51
P1208	N17-C-73345-7623	2Z3082-136
P1209	N17-C-70565-1633	2Z3046.48
P1210	N17-C-70375-1781	2Z3082-137
W1206		3E5999-12.28
W1207		3E5999-12.27
W1208		3E5999-12.25
W1209		3E5999A-112
W1209A	N15-C-12201-75	1F425-55
W1210		3E5999A-113
1301 thru 1399	F16-T-20241-1231	3F4325-777
A1301		3F30850-5.1
C1301	N16-C-45805-6260	3DA100-838
C1303	N16-C-30119-5130	3D9470-37
E1301		3F3705-27
E1301A	N15-C-31162-201	1B3022-2.36
E1303	N16-C-146517-951	3F30565-2
E1304	N16-K-700289-669	2Z5850-49
H1301	N42-S-26519-4440	6Z3810-16.29
J1301	N17-J-39424-2096	2Z5598-77
J1302	N17-J-39652-5801	2Z5598-78
M1301	N17-M-21871-2196	3F871-26
O1301	N17-C-945002-310	2Z3351-702
O1302	N17-C-945002-303	3F30805-5
O1303	N17-S-38251-1030	2Z4928-88
P1301	N17-P-61400-5186	2Z7168
P1303	N17-C-71572-6271	2Z3031-16
P1304	N16-P-87401-1020	3F3703-10
R1301	N16-R-50399-811	3RC20BF273K
R1302	N16-R-50975-811	3RC20BF105K
R1303	N16-R-73321-1093	3Z6801E5-12
R1304	N16-R-72993-5948	3Z6100-345
R1305	N16-R-50282-811	3RC20BF103K
R1306	N16-R-49598-811	3RC20BF121K
R1309	N16-R-50678-811	3RC20BF154K
R1310	N16-R-49392-486	3RC42GF390K
R1311	N16-R-50129-811	3RC20BF472K
S1301	N17-S-64701-3661	3Z9825-65.75
S1302	N17-S-68367-6852	3Z9558-44.1
W1301		3E4002.314
W1301A	N15-C-31162-8620	1B4022-11
CR1301	N16-T-51769	2J1N69
TB1301		3Z770-21.10
1401 thru 1499	N16-M-150301-201	2A2067-198
H1401		6L80150-198
H1401A		6L72916-1
H1401B		6L50106-13
H1401C		6L3506-16-1051
H1401D		6L606-1.75
H1401E		6L306-4.5
H1401F		6L606-4.5H2

TABLE 8-5 STOCK NUMBER CROSS REFERENCE

STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION
N15-C-12201-75	W601A	N16-C-28558-1537	C378	N16-C-58140-3127	C208
N15-C-31162-201	E1301A	N16-C-28563-4091	C447	N16-C-58403-1346	C420
N15-C-31162-8620	W1301A	N16-C-28811-6590	C414	N16-C-59823-8209	C905
N16-A-13601-1012	T101	N16-C-28980-1914	C305	N16-C-63213-3377	C210
F16-A-45190-5801	101 thru 199	N16-C-29260-1390	C415	N16-C-71596-4351	L101
		N16-C-29375-7986	C349	N16-C-72164-8391	L217
N16-A-70501-1079	E115	N16-C-29655-7393	C416	N16-C-72304-6403	L404
N16-A-70501-1094	E114	N16-C-29713-6603	C201	N16-C-72324-1294	L407
N16-A-70501-1097	A108	N16-C-29892-9975	C418	N16-C-72422-2752	L318
N16-A-700001-285	O435	N16-C-29903-4076	C968	N16-C-72435-4635	L426
N16-C-10639-8315	801 thru 899	N16-C-30103-8386	C417	N16-C-72497-7789	L424
		N16-C-30119-5130	C204	N16-C-72556-4628	L215
N16-C-10644-2021	1101 thru 1199	N16-C-30659-4312	C971	N16-C-74241-8532	L908
		N16-C-31095-6335	C219	N16-C-74539-8741	L201
N16-C-11923-2121	W601	N16-C-31162-201	E1301A	N16-C-74913-7844	L901
N16-C-11923-7001	W801	N16-C-31913-4044	C358	N16-C-75072-3788	L448
N16-C-15638-4509	C951	N16-C-32646-6808	C202	N16-C-76215-2661	L211
N16-C-15949-1925	C226	N16-C-32651-9288	C355	N16-C-76233-4839	L412
N16-C-16149-1215	C406	N16-C-32831-3608	C238	N16-C-76281-5509	L202
N16-C-16532-2514	C919	N16-C-33279-6023	C361	N16-C-76443-2153	L401
*N16-C-16525-2573	C205	*N16-C-33622-5588	C222	N16-C-76678-7155	L402
N16-C-16661-1291	C251	N16-C-40105-5311	C234	N16-C-95404-3521	E401
N16-C-16802-4160	C923	N16-C-41623-2974	C216	N16-C-95423-8380	E402
N16-C-18177-7701	C212	N16-C-42762-8965	C306	N16-C-95457-2261	E403
N16-C-18179-8022	C913	N16-C-42765-4822	C612	N16-C-96354-5171	Y406
N16-C-18657-8801	C640	N16-C-43147-6607	C702	N16-C-96672-3337	Y401
N16-C-18659-7775	C904	N16-C-43525-6273	C357	N16-C-96948-9336	Y403
N16-C-18787-8121	C901	N16-C-43535-3080	C474	N16-C-96960-1051	Y402
N16-C-18914-4801	C203	N16-C-44109-2015	C235	N16-C-96976-6066	Y411
N16-C-25102-6281	C206	N16-C-44285-6258	C610	N16-C-96977-8171	Y410
N16-C-26020-7691	C261	N16-C-45773-7507	C104	N16-C-96978-9337	Y409
N16-C-26025-8210	C214	N16-C-45801-9515	C963	N16-C-96979-9951	Y408
N16-C-26447-1772	C262	N16-C-45801-9592	C967	N16-C-96981-2171	Y407
N16-C-26601-1443	C307	N16-C-45805-6260	C703	N16-C-96982-3336	Y405
N16-C-26843-5550	C970	N16-C-46371-9550	C964	N16-C-96983-2001	Y415
N16-C-27075-3571	C453	N16-C-48808-9150	C955	N16-C-96984-5171	Y414
N16-C-27125-6143	C449	N16-C-48841-9628	C801	N16-C-96985-6337	Y413
N16-C-27180-6223	C411	N16-C-49981-9993	C957	N16-C-96986-7051	Y412
N16-C-27191-7230	C211	N16-C-50717-5944	C103	N16-C-96993-4051	Y404
N16-C-27582-1755	C338	N16-C-51881-9090	C701	N16-C-97078-2793	Y418
N16-C-27587-4230	C215	N16-C-52992-7087	C974	N16-C-97078-8126	Y417
N16-C-27756-5650	C412	N16-C-54363-1595	C962	N16-C-97567-8781	Y301
N16-C-27766-7541	C276	N16-C-54460-4310	C902	N16-C-125001-444	O926
N16-C-27835-6790	C421	N16-C-54535-9808	C619	N16-C-146517-951	E1303
N16-C-28204-9457	C405	N16-C-54677-8101	C356	N16-C-201175-871	H603
N16-C-28388-5877	C258	N16-C-54808-7795	C309	N16-C-300798-452	H703
N16-C-28547-8660	C402	N16-C-58031-8824	C224	N16-C-300798-621	H609

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION
N16-C-300798-866	H701	N16-M-60958-3571	H928	N16-R-49706-811	R428
N16-C-600701-187	E108	N16-M-61127-4446	H101	N16-R-49769-799	R363
N16-D-46337-9621	N908	N16-M-61142-6931	H302	N16-R-49769-811	R314
N16-D-46338-1058	N907	N16-M-61148-1050	H706	N16-R-49770-233	R458
N16-D-46338-1066	N904	N16-M-150301-201	1401 thru	N16-R-49877-818	R943
N16-D-46338-3975	N601		1499	N16-R-49921-349	R935
N16-D-46338-3978	N602	N16-M-155249-781	A103	N16-R-49922-730	R204
N16-D-46338-3981	N604	F16-P-68315-6051	701 thru	N16-R-49922-811	R235
N16-D-46348-7401	E959		799	N16-R-49940-811	R203
F16-D-56863-5376	101 to	N16-P-87401-1020	P1304	N16-R-49940-816	R903
	1499	N16-P-500001-224	N903	N16-R-49967-760	R210
N16-D-351021-116	0925	N16-R-28896-6523	L702	N16-R-49985-813	R923
N16-D-901161-199	0928	N16-R-29091-6716	L701	N16-R-49986-511	R239
N16-G-413286-759	0220	N16-R-29104-9989	L907	N16-R-50012-0811	R344
N16-G-413286-762	0236	N16-R-31680-8503	201 thru	N16-R-50012-816	R360
N16-G-413286-766	0219		899	N16-R-50039-721	R905
N16-G-413286-771	0237	F16-R-31680-9601	200-699	N16-R-50040-233	R220
N16-G-413286-781	0222	N16-R-33591-1384	E430	N16-R-50066-811	R405
N16-G-413286-792	0238	N16-R-33591-1385	E428	N16-R-50066-816	R202
N16-G-413286-866	0218	N16-R-33591-1396	E318	N16-R-50067-233	R424
N16-G-413286-868	0221	N16-R-33591-1397	0432	N16-R-50092-438	R910
N16-G-431218-211	B201b	N16-R-33591-1398	0434	N16-R-50093-816	R208
N16-G-431378-881	0215	N16-R-33591-1399	601 thru	N16-R-50094-238	R216
N16-G-431615-811	0416		699	N16-R-50129-811	R1311
N16-G-431858-432	0216	N16-R-33591-1401	E432	N16-R-50129-0815	R932
N16-G-431858-731	0213	N16-R-33591-1402	E201	N16-R-50130-241	R1068
N16-G-432025-551	0419	N16-R-33591-1404	E232	N16-R-50166-238	R354
N16-G-432095-334	0423	N16-R-33591-1409	E202	N16-R-50201-818	R205
N16-G-432335-883	0438	N16-R- 49237-443	R466-1	N16-R-50202-516	R225
N16-G-500001-564	0243	N16-R-49347-238	R1046	N16-R-50237-815	R1023
N16-G-500001-565	0422	N16-R-49347-486	R705	N16-R-50238-518	R601
N16-G-500001-566	0420	N16-R-49364-818	R1089	N16-R-50282-725	R615
N16-G-500001-567	0421	N16-R-49392-486	R1310	N16-R-50282-811	R238
N16-G-500001-573	0242	N16-R-49580-0766	R614	N16-R-50310-238	R233
N16-G-500001-574	0241	N16-R-49580-0811	R368	N16-R-50336-811	R236
N16-G-500001-587	0214	N16-R-49598-811	R1306	N16-R-50336-815	R352
N16-H-73136-4100	J204	N16-R-49625-0811	R355	N16-R-50337-243	R206
F16-I-48411-1009	901 thru	N16-R-49625-818	R237	N16-R-50353-443	R1014
	1099	N16-R-49643-818	R1031	N16-R-50354-811	R316
N16-K-700266-893	E951	N16-R-49661-811	R308	N16-R-50372-833	R909
N16-K-700277-452	E957	N16-R-49661-818	R224	N16-R-50373-238	R215
N16-K-700289-669	E1304	N16-R-49687-321	R1009	N16-R-50399-131	R1041
N16-K-700354-694	N603	N16-R-49688-746	R324	N16-R-50399-811	R339
N16-K-702551-568	E956	N16-R-49688-811	R229	N16-R-50399-813	R222
N16-M-60909-7976	H908	N16-R-49706-761	R1032		

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION
N16-R-50417-823	R607	N16-R-50858-818	R921	N16-R-87852-5660	R1008
N16-R-50418-233	R303	N16-R-50893-435	R1016	N16-R-88009-4620	R1059
N16-R-50443-438	R906	N16-R-50893-758	R1076	N16-R-88012-5786	R901
N16-R-50444-811	R325	N16-R-50975-811	R201	N16-R-88182-5937	R920
N16-R-50445-233	R1072	N16-R-51020-818	R246	N16-R-88182-5977	R1066
N16-R-50479-435	R942	N16-R-51065-811	R323	N16-R-88182-5987	R1061
N16-R-50479-440	R924	N16-R-51091-438	R451	N16-R-88412-5591	R902
N16-R-50480-811	R217	N16-R-51092-818	R926	N16-R-89672-3720	R605
N16-R-50481-233	R1071	N16-R-51109-438	R941	N16-R-94402-1495	E218
N16-R-50516-811	R372	N16-R-51136-701	R1080	N16-R-651091-309	O227
N16-R-50516-818	R318	N16-R-51172-438	R971	N16-R-653001-142	E120
N16-R-50517-238	R1057	N16-R-51244-438	R469	N16-S-21019-9811	S904E
N16-R-50551-111	R444	N16-R-51280-438	R468	N16-S-34433-5501	E231
N16-R-50551-401	R1060	*N16-R-65178-7096	R603	N16-S-34250-3862	E211
N16-R-50552-811	R211	*N16-R-65430-5276	R602	N16-S-34557-8351	E936
N16-R-50552-818	R345	N16-R-65974-5966	R341	N16-S-34579-7224	E966
N16-R-50553-233	R708	N16-R-66085-3846	R226	N16-S-34607-8400	E937
N16-R-50587-435	R955	N16-R-66141-3006	R1050	N16-S-36341-1011	E207
N16-R-50587-758	R1056	N16-R-66252-3516	R704	N16-S-54287-5051	XY301
N16-R-50588-811	R331	N16-R-68278-8466	R1038	N16-S-62601-8925	XV926
N16-R-50589-233	R1048	N16-R-68284-4366	R1036	N16-S-62603-6700	XV209
N16-R-50632-416	R911	N16-R-68334-4871	R457	N16-S-62603-6716	XV201
N16-R-50633-785.	R915	N16-R-72889-3537	R101	N16-S-62646-6795	XV207
N16-R-50633-811	R213	N16-R-72993-5948	R1304	N16-S-62646-6801	XV206
N16-R-50634-234	R221	N16-R-73080-3663	R996	N16-S-63515-4151	XK605
N16-R-50650-758	R1058	N16-R-73097-6551	R359	N16-S-63583-9191	XE401
N16-R-50651-811	R446	N16-R-73109-9481	R976	N16-S-64063-6725	XV202
N16-R-50651-818	R703	N16-R-73122-4551	R320	N16-S-64378-3782	XV916
N16-R-50632-233	R1073	N16-R-73127-4144	R916	N16-S-83701-1002	E222
N16-R-50678-811	R1309	N16-R-73176-9226	R995	N16-S-117101-926	N902
N16-R-50678-818	R981	N16-R-73209-1083	R374	N16-S-470001-167	H1103
N16-R-50695-436	R452	N16-R-73216-5762	R968	N16-S-470001-168	H1104
N16-R-50696-108	R1054	N16-R-73221-5813	R912	N16-S-850281-171	A101
N16-R-50696-818	R361	N16-R-73246-3441	R347	F16-T-20241-1231	1301 thru 1399
N16-R-50713-380	R1090	N16-R-73271-1311	R711		
N16-R-50714-811	R244	N16-R-73278-5451	R917	N16-T-51769	CR1301
N16-R-50714-818	R707	N16-R-73308-2876	R963	N16-T-51990	V926
N16-R-50741-811	R340	N16-R-73310-7351	R918	N16-T-52001	V919
N16-R-50741-818	R1053	N16-R-73321-1093	R1303	N16-T-53030	V920
N16-R-50758-754	R1062	N16-R-83941-7067	R463	N16-T-53050	V702
N16-R-50759-0811	R447	N16-R-87192-5490	R1040	N16-T-55138	V916
N16-R-50785-754	R1067	N16-R-87192-5510	R944	N16-T-55446	V701
N16-R-50786-811	R329	N16-R-87682-5661	R914	N16-T-56201	V209
N16-R-50822-761	R702	N16-R-87752-5560	R709	N16-T-56202	V704
N16-R-50822-811	R313	N16-R-87752-5570	R1013	N16-T-56295	V206
N16-R-50858-811	R327	N16-R-87852-5611	R604	N16-T-56458	V925

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION
N16-T-56840-50	V918	N17-C-73324-2637	J604	N17-E-32201-1134	K203
N16-T-75651	V924	N17-C-73345-7623	J603	N17-F-1067-2105	B801
N16-T-75654	V201	N17-C-73553-1338	P606	N17-F-14306-520	F705
N16-T-75670	V202	N17-C-73600-1903	J103	N17-F-14305-40	F901
N16-T-75686	V312	N17-C-73617-3451	P604	N17-F-14310-345	F704
N16-T-75726	V306	N17-C-73649-6966	P603	N17-F-16302-100	F703
N16-T-751655-903	H906	N17-C-78145-4241	E104	N17-F-16302-150	F701
N17-A-25801-1086	O429	N17-C-78540-7777	P903	N17-F-42382-2404	H1203
N17-B-77415-2021	TB401	N17-C-81990-4316	S904D	N17-F-74266-9215	XF901
N17-B-77585-4531	TB701	N17-C-81995-3926	S904C	N17-F-74267-5401	XF701
*N17-B-78038-4120	TB101	N17-C-81995-4036	S904A	N17-G-47976-1053	G101
N17-B-78058-4221	TB902	N17-C-84094-1101	E901	N17-G-44977-6831	O201
N17-B-78058-4226	TB901	N17-C-84325-6751	S904B	N17-G-156356-301	O813
N17-B-78141-9324	E801A	N17-C-84395-850	S904	N17-G-157221-324	O811
N17-B-78141-9336	E801	N17-C-98378-4596	O112	N17-G-159317-317	O812
N17-B-86638-3535	E101	N17-C-98379-2601	O111	N17-G-159380-645	O601
N16-C-48841-8695	W1301	N17-C-200636-699	E112	N17-H-60021-7201	HR407
N17-C-61201-1001	E105	N17-C-200875-661	O119	N17-H-60034-2001	HR408
N17-C-67444-5090	E131	N17-C-200877-861	O120	N17-I-49497-2902	E209
N17-C-67447-4042	E130	N17-C-201672-147	E963	N17-I-49516-6701	E950
N17-C-67728-3321	J601	N17-C-781324-982	H1207	N17-I-59406-6721	E425
N17-C-67729-2433	J101	N17-C-781444-634	H807	N17-I-69152-1384	E317
N17-C-70087-2252	P602	N17-C-781535-345	H102	N17-I-69154-6198	E920
N17-C-70375-1781	P702	N17-C-781724-735	H805	N17-I-69187-7101	E926
N17-C-70565-1633	P1209	N17-C-794001-221	O803	N17-J-39424-2096	J1301
N17-C-70621-4339	P102	N17-C-794001-230	O801	N17-J-39652-5801	J702
N17-C-71108-5314	P1202	N17-C-805285-101	E301	*N16-L-1102-11	I701
N17-C-71312-1603	P103	N17-C-80686-6626	XZ907	N17-L-6491-220	I601
N17-C-71408-5333	P201	N17-C-813511-101	E949	N17-L-6543-175	I901
N17-C-71414-1801	P101A	N17-C-945002-303	O1302	N17-L-62678-6570	E947
N17-C-71422-3137	P101B	N17-C-945002-310	O1301	N17-L-62678-6570	E948
N17-C-71572-6271	P1303	N17-C-945002-541	O903	N17-L-63256-4732	E1301
N17-C-72273-4339	J102	N17-C-945002-563	A1301	N17-L-76653-4093	XI601B
N17-C-72651-1781	J602	N17-C-98378-7863	O439	N17-L-76680-1067	XI905
N17-C-72811-2237	J201	N17-C-781891-713	H1205	N17-L-76764-9749	XI904
N17-C-73107-8918	J903	N17-C-945002-357	O701	N17-L-76848-8442	XI601
N17-C-73108-1267	J301	N17-E-32201-1133	K202	N17-L-76848-8442	XI906
N17-C-73108-2575	J203			N17-L-77658-2248	XI901
N17-C-73269-2307	J606			N17-L-250017-751	XI905A

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION	STANDARD NAVY STOCK NUMBER	KEY DESIG-NATION
N17-L-250282-159	XI904A	N17-S-69063-4401	S901	N42-R-775-2510	H606
N17-L-250602-159	XI601A	N17-S-69294-5276	S602	N42-R-2047	O232
N17-L-250701-118	XI701A	N17-S-69566-4166	S702	N42-R-2047-100	O205
N17-M-12774-1611	E109	N17-S-69888-4376	S803	N42-S-26519-4440	H1301
N17-M-21871-2196	M1301	N17-S-70412-4406	S911	N43-S-4799-9828	H918
N17-M-55294-7166	B101	N17-S-74692-4506	S701	N43-S-79146-3150	H1101
N17-M-59443-2561	B201A	N17-S-91897-8974	S203	N43-S-91060-7510	H1102
N17-M-75466-6746	O804	N17-S-150263-101	O602	N43-S-91062-1030	H610
N17-P-61400-5186	P1301	N17-S-150263-102	O701	N43-W-6812-9580	H612
N17-P-63155-6376	P903	N17-S-250051-369	H1212	G77-B-115-00209-2004	O207
N17-P-87217-4826	B801A	N17-S-250051-379	H1210	G77-B-115-00409-2004	O922
N17-R-51121-1601	CR701	N17-S-250051-380	H1211	G77-B-999-75020-100	O927
N17-R-64679-6842	K404	N17-T-28218-3901	E416	N77-B-111-00902-8444	O244
N17-R-65098-8711	K702	N17-T-28242-3626	E912	N77-B-111-02010-8444	O109
N17-R-65219-7821	K403	N17-T-28255-3250	E230	N77-B-115-319-2004	O202
N17-R-65219-7831	K401	N17-T-28255-3281	E208	N77-B-120-02532-844	O110
N17-R-65219-8468	K201	N17-T-61589-5001	T901	N77-B-999-75020-0100	O927
N17-R-65471-9065	K701	N17-T-64956-1305	T301		
N17-R-65624-2521	K601	N17-T-65518-7330	Z307		
N17-R-72903-8601	K605	N17-T-67200-8781	Z407		
N17-R-76392-5501	E129	N17-T-67794-7514	Z302		
N17-S-38251-1030	O1303	N17-T-67794-7751	Z306		
N17-S-41969-1566	K101	N17-T-67794-7805	Z304		
N17-S-46668-8261	O904	N17-T-67794-7835	Z305		
N17-S-46710-5651	O919	N17-T-68139-1021	Z201		
N17-S-46714-9901	O920	N17-T-68139-4915	Z202		
N17-S-46763-2134	O924	N17-T-70700-9832	T702		
N17-S-46793-1002	O224	N17-T-71459-1436	T703		
N17-S-46860-7985	O123	N17-T-74242-7643	T701		
N17-S-50962-6865	Z204	N17-T-74321-8201	T902		
N17-S-55212-7121	S902	N17-T-81301-5095	T903		
N17-S-57413-5989	S801	N17-T-81436-6941	Z401		
N17-S-58917-2729	S202	N17-T-81442-3827	Z406		
N17-S-59454-6131	S603	N17-T-81452-3134	Z402		
N17-S-60605-1001	S604	N17-T-81453-9814	Z405		
N17-S-64701-3661	S1301	N17-T-81457-6701	Z404		
N17-S-65078-2957	S910	N17-T-81457-7925	Z403		
N17-S-65278-9001	S601	N33-P-1559-740	O1108		
N17-S-65462-9015	S404	N33-P-P1560-150	O1110		
N17-S-65467-4953	S405	N42-C-13390-2025	H606		
N17-S-66623-8987	S403	N42-P-73918-750	H410		
N17-S-68367-6852	S1302	N42-P-73920-445	H405		

SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION
1B3022-2.36	E1301A
1B4022-11	W1301A
1F425-55	W601A
2A264-514	101 thru 199
2A290B-8-10	E115
2A290B-8-11	E114
2A290B-8-15	A108
2A290B-8-16	A104
2A387.6-6	E112
2A781-7	A105
2A2067-198	1401 thru 1499
2A2496-103	A103
2A2496-104	A102
2A3171.1-27	0232
2A3178.3	H606
2A3393A.1-184	A101

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION	SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION	SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION
2C1565A-93	901 thru 1099	2X231-3750	Y415	2Z3197A-18	S904B
2C4180-353	200-699	2X231-3766.667	Y414	2Z3197A-20	S904C
2C4571-1	301 thru 399	2X231-3783.333	Y413	2Z3197A-21	S904D
2C4571-2	E428	2X231-3800	Y412	2Z3197A-128	E901
2C4571-3	400 thru 599	2X231-3900	Y404	2Z3197A-130	S904A
2C4571-4	O204	2X231-5172.917	Y418	2Z3197A-131	S904
2C4571-5	E432	2X231-5181.25	Y417	2Z3262-100	E108
2C4571-6	E229	2X248-833.333	Y401	2Z3265B-4	T101
2C4571-7	201-299	2Z307-43	H1203	2Z3295-212	O112
2C4571-8	E318	2Z308-216	E130	2Z3295-256	O111
2C4571-9	E232	2Z308-271	J101	2Z3295-269	O439
2C4571-10	601 thru 699	2Z380-96	O435	2Z3351-588	H705
2C4571-11	O434	2Z581-104	O202	2Z3351-627	A1101
2C4571-12	E201	2Z964.58	Z403	2Z3351-628	O122
2C5137-485	201 thru 899	2Z1239.165	H928	2Z3351-702	O1301
2C5611-27	E227	2Z1239.169	H908	2Z3418-54	E401
2C5611-29	E202	2Z1239.189	H101	2Z3418-54-2	E430
2J0A2	V919	2Z1239.189	H706	2Z3723-204	E959
2J0A3	V920	2Z1600-97	O926	2Z3723-503	N203
2J0C3	V702	2Z1607-187	E963	2Z3723-561	N907
2J1N69	CR1301	2Z1612	O119	2Z3723-562	N904
2J1Z2	V926	2Z1612.8	O120	2Z3723-563	N908
2J5CP12	V916	2Z2636-2	H805	2Z3723-587	N902
2J5R4WGY	V701	2Z2636-28	H703	2Z3723-667	N604
2J6AS6	V209	2Z2642.170	H701	2Z3723-668	N602
2J6AS7G	V704	2Z2642.714	H102	2Z3723-673	N601
2J6F4	V206	2Z2642.979	H103	2Z3740-437	N901
2J6L6GA	V925	2Z2642.1152	H1207	2Z3804.393	E207
2J6X4W	V918	2Z2646.190	H1205	2Z3806.27	O925
2J5651	V924	2Z2712.173	E301	2Z3876.201	E228
2J5654/6AK5W	V201	2Z2712.429	E948	2Z4029-2	K203
2J5670	V202	2Z2712.430	E947	2Z4866.351	O104
2J5686	V312	2Z2724-9	E949	2Z4866.410	O103
2J5726/6AL5W	V306	2Z2866-18	K202	2Z4866.587	O1108
2S4300-4	101 to 1499	2Z2866-20	O432	2Z4866.651	O1110
2S4300-4-1	O928	2Z3029-37	P606	2Z4867.922	O1107
2X209-12517.8	Y301	2Z3031-16	P1303	2Z4867.923	O1109
2X231-3233.333	Y403	2Z3034-40	P102	2Z4867.924	O106
2X231-3400	Y402	2Z3036-21	J103	2Z4867.925	O105
2X231-3566.667	Y406	2Z3040-15	P604	2Z4867.1071	O811
2X231-3650	Y411	2Z3046.48	P1209	2Z4867.1076	O702
2X231-3666.667	Y410	2Z3046.49	J602	2Z4867.1077	O601
2X231-3683.333	Y409	2Z3046.51	P603	2Z4867.1078	O812
2X231-3700	Y408	2Z3070-58	J606	2Z4867.1173	O813
2X231-3716.667	Y407	2Z3075-54	J102	2Z4872-432	O221
2X231-3733.333	Y405	2Z3077-27	P103	2Z4872-489	O438
		2Z3081-19	J604	2Z4875-362	O421
		2Z3082-136	J603	2Z4875-363	O420
		2Z3082-137	P702	2Z4875-364	O422
		2Z3082-139	P602	2Z4875-380	O242
		2Z3193-332	X1907	2Z4875-382	O241
		2Z3194-122	E104		

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

SIGNAL CORPS STOCK NUMBER	KEY DESIGNATION	SIGNAL CORPS STOCK NUMBER	KEY DESIGNATION	SIGNAL CORPS STOCK NUMBER	KEY DESIGNATION
2Z4875-623	O243	2Z7390-27B	E131	2Z8677.135	XV926
2Z4875-624	O214	2Z7390-88	P201	2Z8677.241	XV201
2Z4875-653	O236	2Z7390-89	P1202	2Z8677.258	XV207
2Z4875-654	O238	2Z7390-154	P101B	2Z8677.259	XV206
2Z4875-655	O237	2Z7390-290	J301	2Z8679.38	XV202
2Z4877-15	O219	2Z7390-414	J601	2Z8681.20	J204
2Z4877-16	O220	2Z7390-535	J201	2Z8684-14	XV916
2Z4877-17	O222	2Z7390-536	P101A	2Z8761-60	XY301
2Z4877-30	O215	*2Z7390-625A	J203 (repl)	2Z8877.250	O224
2Z4877-31	O218	2Z7586-191	K404	2Z8877.344	O919
2Z4878-1149	B201B	2Z7587-333	K201	2Z8877.345	O920
2Z4878-1151	O419	2Z7590-300	K701	2Z8877.364	O904
2Z4878-1155	O416	2Z7590-337	K601	2Z8877.402	O301
2Z4878-1195	O216	2Z7590-341	K403	2Z8878-433	O918
2Z4878-1280	O423	2Z7590-352	K401	2Z8878-474	O123
2Z4878C-53	O213	2Z7598-187	K101	2Z8879-425	O924
2Z4928-88	O1303	2Z7598-192	K605	2Z9057-119	A107
2Z5042-4	H609	2Z7598-196	E129	2Z9621-458	T902
2Z5574.1	J903	2Z7599A-507	K702	2Z9621B-86	T703
2Z5598-77	J1301	2Z7857-74	O205	2Z9621B-87	T701
2Z5598-78	J702	2Z7858-137	O227	2Z9621B-88	T702
2Z5822-444	E951	2Z7858-347	O206	2Z9631.518	T901
2Z5824.280	E957	2Z7858-460	O228	2Z9632.829	T301
2Z5824.281	E956	2Z7858-461	O234	2Z9632.832	Z307
2Z5824.403	N603	2Z7858-471	E120	2Z9642.152	Z305
2Z5850-49	E1304	2Z8066-10	E218	2Z9642.153	Z304
2Z5877-12	I901	2Z8202-74	S904E	2Z9642.154	Z306
2Z5877-58	I701	2Z8203-847	O906	2Z9642.163	Z302
2Z5991-389	XI904	2Z8203-896	O245	2Z9643.509	Z407
2Z5991-390	XI906	2Z8204-180	O907	2Z9643.510	Z202
2Z5991-391	XI701	2Z8276-138	H1209	2Z9643.521	Z201
2Z5991-394	XI905	2Z8276-139	H1212	2Z9646.56	Z401
2Z5991-422	XI701B	2Z8276-152	H1211	2Z9646.57	Z406
2Z5991-438	XI901	2Z8276-153	H1210	2Z9646.58	Z403
2Z5991-460	XI601B	2Z8304-57	E211	2Z9646.59	Z405
2Z5991-461	XI601	2Z8304.275	E306	2Z9646.70	Z404
2Z6125-310	XI905A	2Z8304.276	E936	2Z9650-11	Z402
2Z6125-311	XI701A	2Z8304.277	E937	2Z10008-209	W101
2Z6125-318	XI904A	2Z8304.287	E210	2ZK2636-2	H807
2Z6125-319	XI601A	2Z8304.430	E231	3C323-192C	L201
2Z6897-12	E403	2Z8308-38	E966	3C323-192M	L426
2Z6900-140	TB1101	2Z8405-206	O804	3C323-192P	L215
2Z7090.664	E222	2Z8558-20	H804	3C336-153	L404
2Z7090.791	H302	2Z8558-21	H803	3C336-154	L424
2Z7168	P1301	2Z8558-22	H802	3C336-155	L217
2Z7249.5	P903	2Z8558-23	H801	3C336-157	L318
2Z7258.141	N903	2Z8558-24	H1104	3C546-20	L907
2Z7258.144	N606	2Z8558-25	H1103	3C575N-6	L702
2Z7258.145	H201	2Z8670.33	XK605	3C575N-7	L701
2Z7259-81	E317	2Z8670.75	XE401	3C1074-52	E105
		2Z8677.99	XV209		

TABLE 8-5 STOCK NUMBER CROSS REFERENCE (Continued)

SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION	SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION	SIGNAL CORPS STOCK NUMBER	KEY DESIG-NATION
3C1084C-68	L448	3D9390-19	C418	3F30805-5	O1302
3C1084C-69	L101	3D9470-32	C417	3F30850-5.1	A1301
3C1084C-71	L908	3D9470-37	C204	3G100-352	E950
3C1084C-72	L204	3D9470-38	C913	3G100-353	E209
3C1084C-73	L203	3D9470-64	C212	3G100-377	E123
3C1084C-74	L412	3DA1-285	C904	3G100-459	E602
3C1084Z-48	L202	3DA1.500-72	C901	3G380-1	E121
3C1084Z-49	L401	3DA1-326	C640	3G385-202	E125
3C1084Z-50	L402	3DA1-388	C219	3G3501-04.1	E920
3C1084Z-51	L801	3DA1-393	C251	3G3502-20	E926
3C1084Z-52	L901	3DA2.500-46	C203	3H165	O927
3C1084Z-53	L211	3DA2-211	C234	3H175-6	A106
3C1084Z-54	L407	3DA6-108	C216	3H305-260	O922
3D252	C905	3DA10-412	C306	3H305-310	O207
3D9004VE4	C224	3DA10-654	C612	3H305-311	O109
3D9005-116	C206	3DA20-210	C702	3H305-312	O110
3D9005-156	C951	3DA20-287	C962	3H305-314	O244
3D9007VE89	C208	3DA25-35	C403	3H345-2	B801A
3D9010-154	C214	3DA30-86	C357	3H525G-13	E101
3D9010-240	C261	3DA30-109	C474	3H1931-34	B801
3D9012-67	C226	3DA47-46	C235	3H2242	O201
3D9013VE13	C420	3DA50-304	C610	3H2440-14.4	G101
3D9015-159	C262	3DA100-673	C902	3H2507-223	E111
3D9018-28	C307	3DA100-718	C963	3H2507-224	E110
3D9022-40	C406	3DA100-735	C974	3H3000-250	B801B
3D9022-49	C970	3DA100-838	C703	3H3000A28-5	B101
3D9027-46	C453	3DA100-972	C967	3H3100A01-33	B201A
3D9030-64	C449	3DA100-1043	C104	3H3100A01-35	B201
3D9033-35	C211	3DA250-346	C619	3H4497-556	701 thru 799
3D9033-36	C411	3DA250-650	C964		
3D9047-21	C919	3DB1-195	C955	3H4860-305	CR701
3D9047-29	C205	3DB1-233	C801	3H8165	O927
3D9047-49	C215	3DB2-253	C356	3K2039121	C968
3D9047-51	C338	3DB4-282	C957	3K3022224	C358
3D9056-34	C276	3DB6-74	C103	3K3510321	C222
3D9056-35	C412	3DB10-233	C701	3K3547221	C202
3D9062-13	C421	3E4001.236	W601	3K3547224	C355
3D9068-52	C923	3E4002.314	W1301	3K3556221	C238
3D9070VE4	C210	3E4001.336	W801	3K3582221	C361
3D9082-31	C405	3E5999-12.25	W1208	3K5575133	C971
3D9091-17	C258	3E5999-12.27	W1207	3RA1203	R605
3D9100-263	C402	3E5999-12.28	W1206	3RC10BF683J	R444
3D9100-270	C378	3E5999A-112	W1209	3RC20BF101K	R368
3D9100-287	C447	3E5999A-113	W1210	3RC20BF102K	R235
3D9130-22	C414	3F871-26	M1301	3RC20BF103K	R238
3D9150-91	C305	3F3703-10	P1304	3RC20BF104K	R213
3D9200-108	C415	3F3705-27	E1301	3RC20BF105K	R201
3D9220-29	C349	3F4325-777	1301 thru 1399	3RC20BF121K	R1306
3D9300-65	C416			3RC20BF122K	R203
3D9330-25	C201	3F30565-2	E1303	3RC20BF124K	R446

TEMPORARY CORRECTION T-5

to

INSTRUCTION BOOK FOR DIRECTION FINDER SET AN/URD-4

[NAVSHIPS 91912(A)]

This temporary correction supplies additional alignment instructions for Direction Finder Set AN/URD-4.

Insert this temporary correction immediately after the front cover of NAVSHIPS 91912(A).

Add the following test equipment to table 7-2 on page 7-3:

Frequency Meter AN/USM-29

After the last paragraph of paragraph 3b(1)(b)1b of page 7-4A, add - "See T-5 for added procedure."

However, if it is found that the desired meter indications for the second and third crystal oscillator circuits given in table 7-7 can not be obtained by replacing crystals, it is necessary to realign these circuits. The alignment procedure requires Frequency Meter AN/USM-29. The alignment procedure is as follows:

(a) Remove monitor from Radio Receiver R-353/URD-4. Connect the monitor to the radio receiver by means of the patch cables supplied with Direction Finder Set AN/URD-4. Turn the equipment on and allow the monitor to warm up for a minimum of ten minutes.

(b) Loosen the tube shield from tube V406 and insulate the tube shield from the chassis. Ground pin 3 of tube V406.

(c) Using the insulated tube shield over tube V406 as a pickup probe, hold the center conductor of a short piece of coaxial cable to the tube shield and connect the other end to the Fx receptacle on the front panel of Frequency Meter AN/USM-29.

(d) Set the digit selector switches on the radio receiver to the positions designated in table I as the second crystal oscillator circuit and determine the frequency of all crystals using Frequency Meter AN/USM-29 by means of the zero-beat frequency method.

(e) Remove the ground from pin 3 of tube V406 and ground pin 7 of tube V406.

(f) Set the digit selector switches on the radio receiver to the positions designated in table I as the third crystal oscillator circuit and determine the frequency of all crystals using Frequency Meter AN/USM-29 by means of the zero-beat frequency method.

(g) Turn off all power to the monitor and remove the ground from pin 7 of tube V406.

(h) Determine from table I which crystals require adjustment to operate within frequency tolerance.

(i) Remove the covers from crystal ovens E402 and E403. The location of the crystals in the ovens can be seen from figure 7-47.

(j) Remove each crystal to be adjusted from its crystal socket and tune the capacitive trimmer to bring the crystal on frequency.

NOTE

Turning the capacitive trimmer clockwise lowers the frequency.

(k) Replace the crystals and replace the covers on the crystal ovens. Turn the equipment on and allow it to warm up for a minimum of ten minutes. Repeat steps (b) through (j) until all crystals are operating within tolerance.

(l) Check the alignment of the monitor as outlined in table 7-6.

TABLE I. SECOND AND THIRD CRYSTAL OSCILLATOR ALIGNMENT

Crystal Osc.Ckt.	Crystal	Digit Selector Switch Setting				Frequency Counter Reading (megacycles)	Freq. Tol. (CPS)	Adjust	Put to Gnd
		1	2	3	4				
2nd	Y403			0,1		3.233333	32	C477A	Pin 3 of XV406
	Y402			2,3		3.400000	34	C477E	
	Y406			4,5		3.566667	36	C477D	
	Y405			6,7		3.733333	37	C477C	
	Y404			8,9		3.900000	39	C477B	
3rd	Y411			0	0,1	3.650000	36	C478F	Pin 7 of XV406
	Y410			0	2,3	3.666667	37	C478P	
	Y409			0	4,5	3.683333	37	C478N	
	Y408			0	6,7	3.700000	37	C478L	
	Y407			0	8,9	3.716667	37	C478J	
	Y416			1	0,1	3.733333	37	C478G	Pin 7 of XV406
	Y415			1	2,3	3.750000	38	C478Q	
	Y414			1	4,5	3.766667	38	C478O	
	Y413			1	6,7	3.783333	38	C478M	
	Y412			1	8,9	3.800000	38	C478K	